ICOM

SERVICE MANUAL

CLASS B AIS TRANSPONDER

MA–500TR

S-14707XZ-C1
Sep. 2010

Icom Inc.

INTRODUCTION

This service manual describes the latest technical information for the **MA-500TR** TRANSPONDER, at the time of publication.

MODEL	VERSION	CHANNEL SPACING	TX POWER
MA-500TR	[USA]	25 kHz	2 W
	[EUR]		
	[CHN]		

To upgrade quality, any electrical or mechanical parts and internal circuits are subject to change without notice or obligation.

CAUTION

NEVER connect the transponder to an AC outlet or to a DC power supply that uses more than the specified voltage. This will ruin the transponder.

DO NOT reverse the polarities of the power supply when connecting the transponder.

DO NOT apply an RF signal of more than 20 dBm (100 mW) to the antenna connector. This could damage the transponder's front-end.

ORDERING PARTS

Be sure to include the following four points when ordering replacement parts:

1. 10-digit Icom part number
2. Component name
3. Equipment model name and unit name
4. Quantity required

<ORDER EXAMPLE>

1110007300	S.IC	NJM2552V-TE1	MA-500TR	MAIN UNIT	5 pieces
8010021740	Screw	3228 CHASSIS	MA-500TR	CHASSIS	3 pieces

Addresses are provided on the inside back cover for your convenience.

REPAIR NOTES

1. Make sure that the problem is internal before disassembling the transponder.
2. **DO NOT** open the transponder until the transponder is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the transponder is defective.
6. **DO NOT** transmit power into a Standard Signal Generator or a Sweep Generator.
7. **ALWAYS** connect a 50 dB to 60 dB attenuator between the transponder and a Deviation Meter or Spectrum Analyzer, when using such test equipment.
8. **READ** the instructions of the test equipment throughly before connecting it to the transponder.

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SECTION 1 SPECIFICATIONS

■ GENERAL

- Frequency coverage : 161.975, 162.025 MHz (default)
  156.025–162.025 MHz
- Type of emission : 16K0GXW (GMSK)
- Current drain (at 12 V nominal) : TX: 1.5 A, RX: 0.7 A
- Power supply requirement : 10.8 to 15.6 V DC
  (negative ground)
- Operating temperature range : –20°C to +60°C; –4°F to +140°F
- Antenna impedance : 50 Ω nominal
- Intermediate frequency
  AIS1 : 1st: 21.700 MHz, 2nd: 450 kHz
  AIS2 : 1st: 30.875 MHz, 2nd: 450 kHz
- Dimensions : 165(W) × 110(H) × 123.3(D) mm,
  (Projections not included) 6 1/2(W) × 4 11/32(H) × 4 27/32(D) in
- Weight : Approx. 1.0 kg; 2 lb 20 oz
- I/O connector : High-density D-sub 15 pin

■ TRANSMITTER

- Output power : 2 W
- Modulation system : GMSK
- Conducted Spurious emissions : Less than –36 dBm

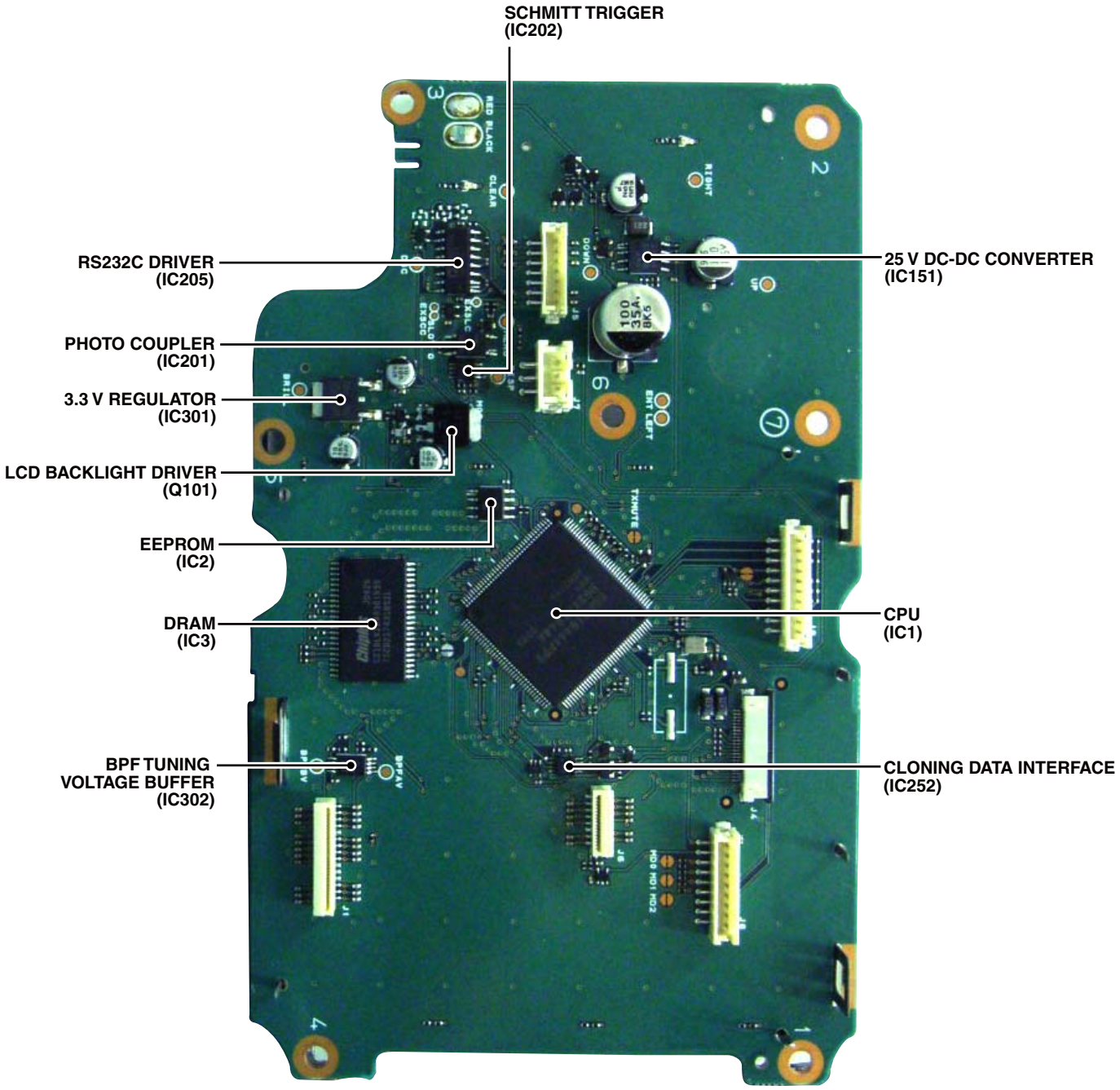
■ RECEIVER

- Sensitivity (20% Packet Error Rate) : –110 dBm
- Intermodulation rejection ratio : More than 65 dB
- Spurious response rejection ratio : More than 74 dB (AIS)
  More than 70 dB (DSC)
- Adjacent channel selectivity : More than 70 dB
- Conducted spurious emission : Less than –57 dBm (AIS)

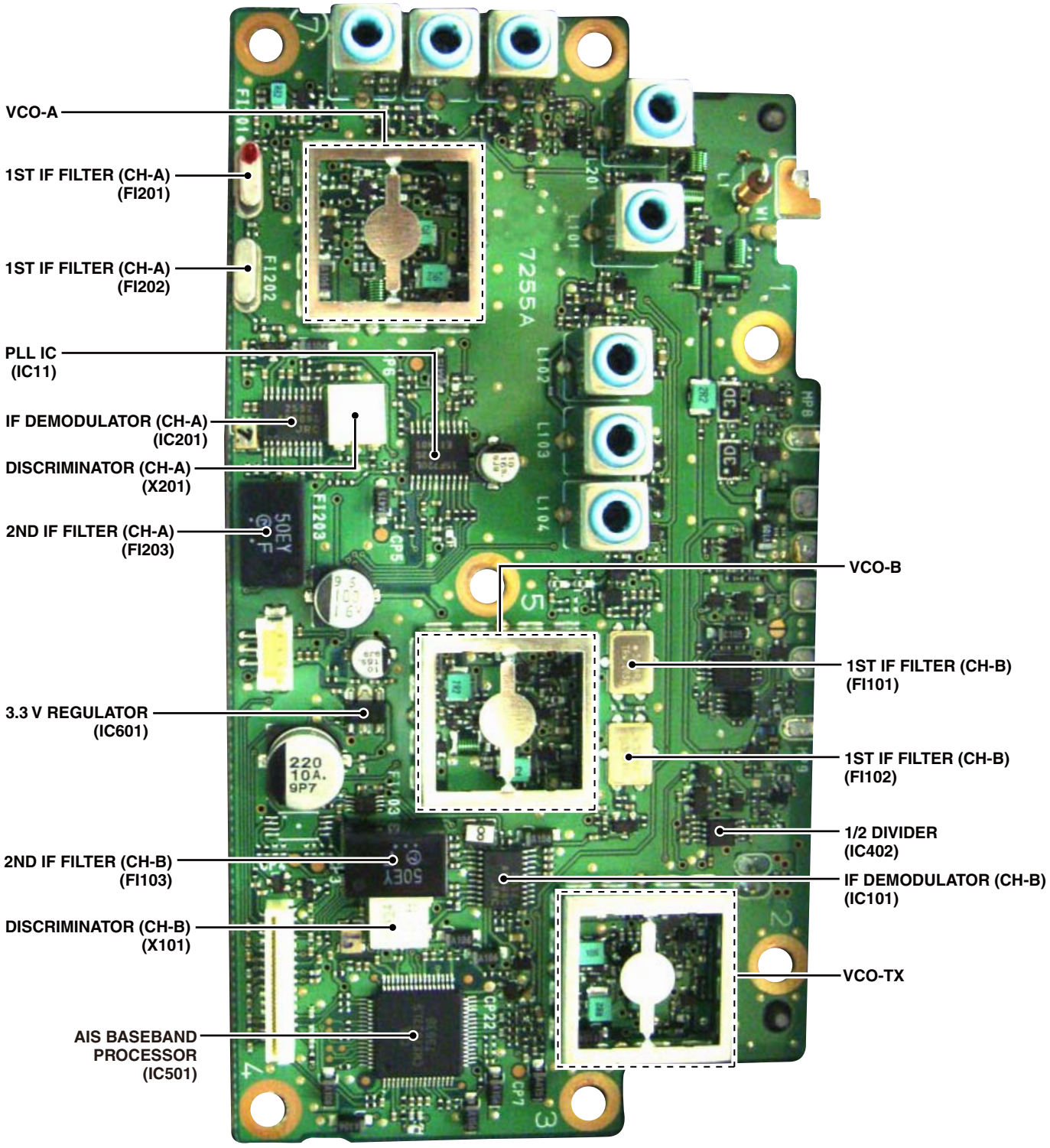
All stated specifications are subject to change without notice or obligation.

SECTION 2 INSIDE VIEWS

• **LOGIC UNIT**



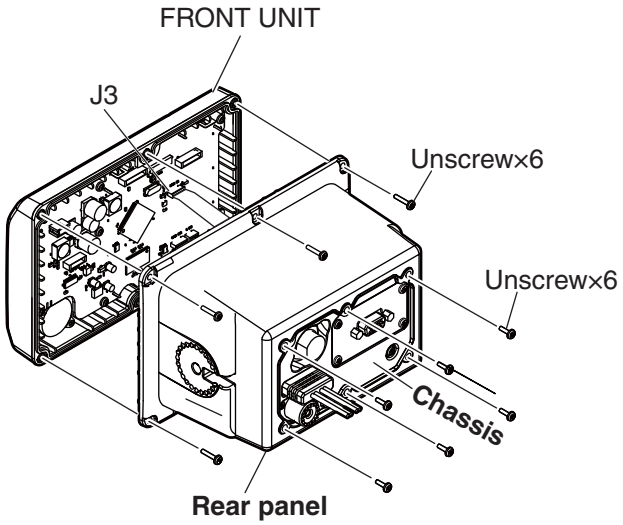
• MAIN UNIT


VCO-A
1ST IF FILTER (CH-A)
(FI201)
1ST IF FILTER (CH-A)
(FI202)
PLL IC
(IC11)
IF DEMODULATOR (CH-A)
(IC201)
DISCRIMINATOR (CH-A)
(X201)
2ND IF FILTER (CH-A)
(FI203)
3.3 V REGULATOR
(IC601)
2ND IF FILTER (CH-B)
(FI103)
DISCRIMINATOR (CH-B)
(X101)
AIS BASEBAND
PROCESSOR
(IC501)
VCO-B
1ST IF FILTER (CH-B)
(FI101)
1ST IF FILTER (CH-B)
(FI102)
1/2 DIVIDER
(IC402)
IF DEMODULATOR (CH-B)
(IC101)
VCO-TX

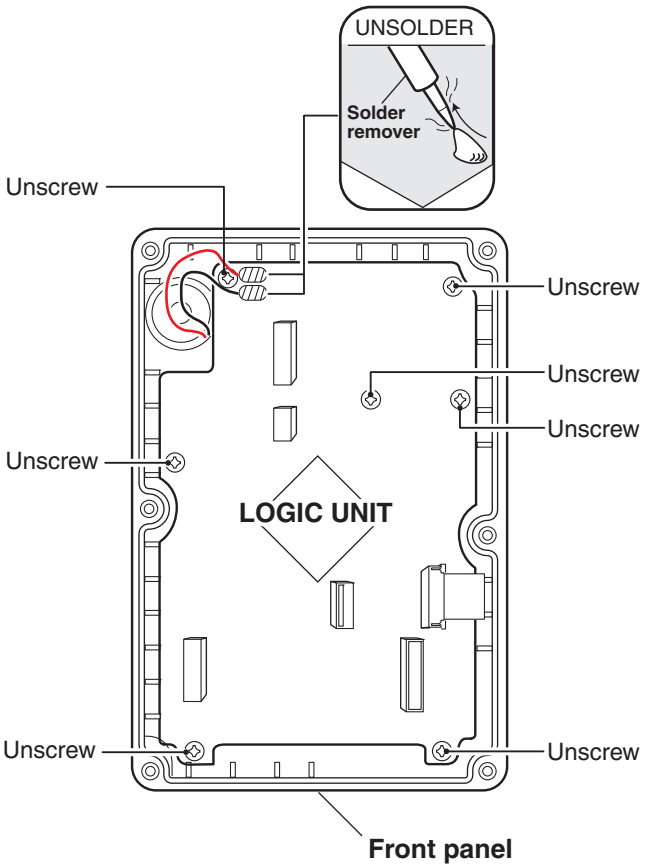
SECTION 3 DISASSEMBLY INSTRUCTION

• REMOVING THE LOGIC UNIT

1) Remove 6 screws from the FRONT UNIT.
2) Disconnect the falt cable from J3 on the LOGIC UNIT, and then remove the FRONT UNIT.
3) Remove 6 screws from the rear panel, and then take out the CHASSIS from the rear panel.

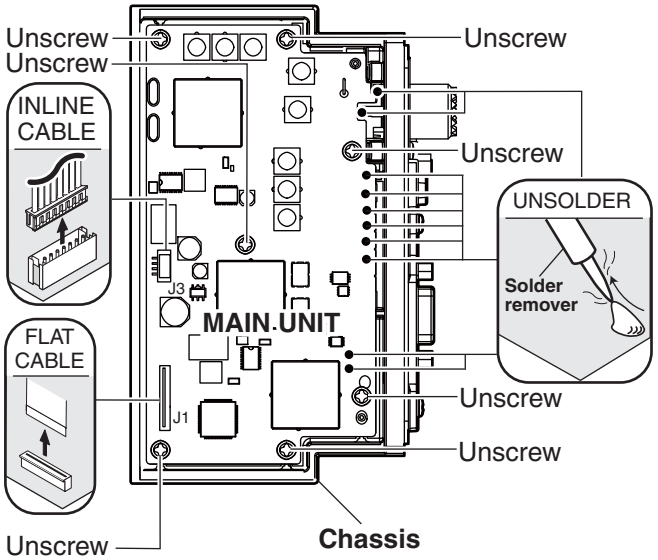


4) Unsolder 2 points on the LOGIC UNIT.
5) Remove 7 screws from the LOGIC UNIT, and then remove the LOGIC UNIT from the front panel.



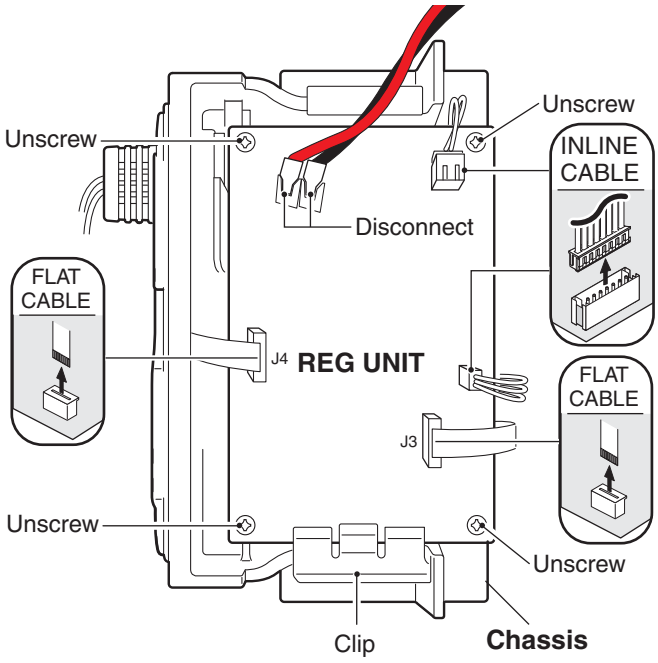
• REMOVING THE MAIN UNIT

1) Disconnect cables from each connector (J1 and J3).
2) Unsolder total of 10 points on the MAIN UNIT.
3) Remove 7 screws from the MAIN UNIT, and then remove the MAIN UNIT from the CHASSIS.



• REMOVING THE REG UNIT

1) Remove the clip.
2) Disconnect cables from each connector (J3 and J4).
3) Remove 4 screws from the REG UNIT, and then remove the REG UNIT from the CHASSIS.



SECTION 4 CIRCUIT DESCRIPTION

4-1 RECEIVE CIRCUITS (MAIN UNIT)

• ANTENNA SWITCHING CIRCUIT

The RF signal from the antenna is passed through the LPF (L2, L3, C3–C5), limiter (D3) and the antenna SW (D1, D2, L5, C7, C8), and then applied to the RF circuit through the splitter (L6, L7, C11).

• RF CIRCUIT (For Channel A)

The RF signal from the splitter (L6, L7, C11) is passed through the tuned BPF (D201, L201, C203, C204), and applied to the gate terminal of Q201, which is a part of the tuned RF AMP with D202–D205, L202, C221, C222. The amplified signal is filtered by the tuned BPF (D206, D207, L203, L204, C224–C230) to remove unwanted out-of-band signals, and then applied to the 1st IF circuit.

• 1ST IF CIRCUIT (For Channel A)

The filtered RF signal is applied to the 1st mixer (Q202) to be mixed with the 1st LO signal, resulting in the 21.7 MHz 1st IF signal. The signal is filtered by the crystal filters (FI201 and FI202) to remove unwanted signals. The signal is applied to the 1st IF AMP (Q205) through the limiter (D210) and amplified, and then applied to the 2nd IF circuit.

• 2ND IF CIRCUIT (For Channel A)

IC201 is an IF demodulator IC which contains the 2nd LO oscillator, 2nd IF mixer, limiter and quadrature detector in its package.

The 1st IF signal is applied to pin 1 of IC201 to be mixed with the 21.25 MHz 2nd LO signal, resulting in the 450 kHz 2nd IF signal.

The 2nd LO signal is generated by the internal 2nd LO oscillator using the crystal resonator (X201).

The 2nd IF signal is output from pin 3, and filtered by the ceramic filter (FI203) to extract only the 450 kHz frequency, and then applied to pin 7 of IC201 to be demodulated by the internal quadrature detector using X202 as the phase shifter.

The demodulated AF signal is output from pin 11, and applied to the AIS baseband processor (IC501) through the AMP (IC202).

• RF CIRCUIT (For Channel B)

The RF signal from the splitter (L6, L7, C11) is passed through the tuned BPF (D101, L101, C103, C104), and applied to the gate terminal of Q101, which is a part of the tuned RF AMP with D102–D105, L102, C121, C122. The amplified signal is filtered by the tuned BPF (D106, D107, L103, L104, C124–C130) to remove unwanted out-of-band signals, and then is applied to the 1st IF circuit.

• 1ST IF CIRCUIT (For Channel B)

The filtered RF signal is applied to the 1st mixer (Q102) to be mixed with the 1st LO signal, resulting in the 30.875 MHz 1st IF signal. The signal is filtered by the crystal filters (FI101 and FI102) to remove unwanted signals. The signal is amplified by the 1st IF AMP (Q105), and then applied to the 2nd IF circuit.

• 2ND IF CIRCUIT (For Channel B)

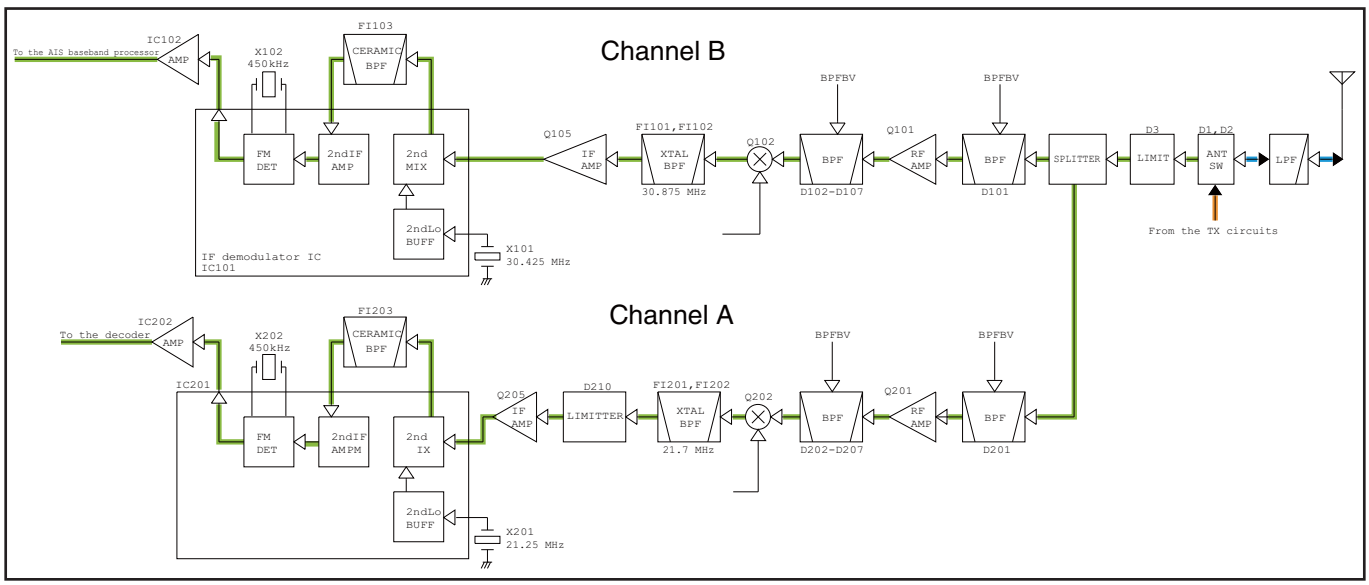
IC101 is an IF demodulator IC which contains 2nd LO oscillator, 2nd IF mixer, limiter and quadrature detector in its package.

The 1st IF signal is applied to pin 1 of IC101 to be mixed with the 30.425 MHz 2nd LO signal, resulting in the 450 kHz 2nd IF signal. The 2nd LO signal is generated by the internal 2nd LO oscillator, using the crystal resonator (X101).

The 2nd IF signal is output from pin 3, and filtered by the ceramic filter (FI103) to extract only the 450 kHz frequency, and then applied to pin 7 of IC101 to be demodulated by the internal quadrature detector, using X102 as the phase shifter.

The demodulated AF signal is output from pin 11 of IC201 and IC101, and applied to the AIS baseband processor (IC501), through the AMPs (IC102, IC202).

• FROM THE ANTENNA TO 2ND IF CIRCUIT



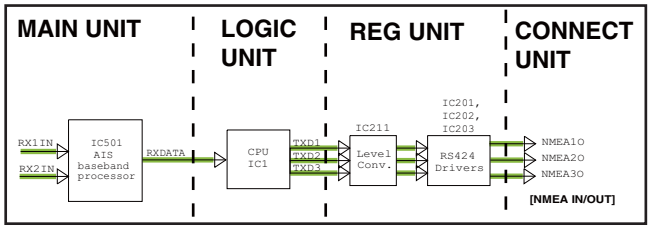
• AIS DATA DECODING CIRCUITS

The demodulated signals from the IF demodulator (IC101 or IC201) are applied to the AIS baseband processor (IC501), and then decoded into the AIS data by the internal GMSK decoder.

The AIS data signal is output from the AIS baseband processor (IC501) as serial data, and then applied to the CPU (LOGIC UNIT; IC1). The CPU processes the input data and sends the position information to the display.

The data is output from the CPU and up-converted from 3.3Vp-p to 5Vp-p by IC211 and converted into a NMEA signal by the RS-424 line drivers (IC201–IC203). It is then output to the connected equipment through the [NMEA IN/OUT] connector (CONNECT UNIT: J1).

• AIS DATA DECODING CIRCUITS

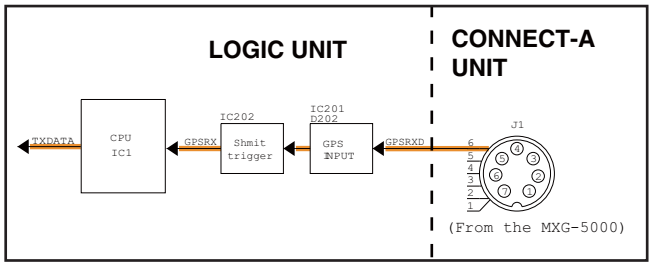


4-2 TRANSMIT CIRCUITS

• GPS DATA INPUT (REG UNIT)
(From the [INTERNAL GPS RECEIVER CONNECTOR])

The position data (NMEA signal) from the GPS receiver (MXG-5000) is up-converted to 5 V by the insulated coupler (IC201), and then adjusted in waveform by the Schmitt trigger (IC202). The signal is down-converted from 5 Vp-p to 3.3 Vp-p by R209 and R210, and then applied to the CPU (LOGIC UNIT; IC1) as the "GPS_RX" signal to be processed.

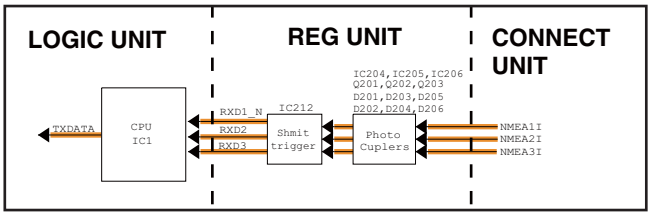
• GPS DATA INPUT
(From the [INTERNAL GPS RECEIVER CONNECTOR])



• GPS DATA INPUT
(From the [NMEA IN/OUT] connector; REG UNIT)

The MA-500TR has three pairs of NMEA I/O ports; "NMEA1I+/–", "NMEA2I+/–" and "NMEA3I+/–," and accepts third party GPS equipment. The NMEA signal from the [NMEA IN/OUT] connector is passed through the current regulator circuits (REG UNIT; D201–D206), level-converted by the insulated photo couplers (IC204–IC206), adjusted in waveform by the Schmitt trigger (IC212), down-converted from 5 Vp-p to 3.3 Vp-p by R226, R227, R236, R237, R246 and R247, and then applied to the CPU (LOGIC UNIT; IC1) "RXD1_N" "RXD2" "RXD3" signals to be processed.

• GPS DATA INPUT (From the [NMEA IN/OUT] connector)

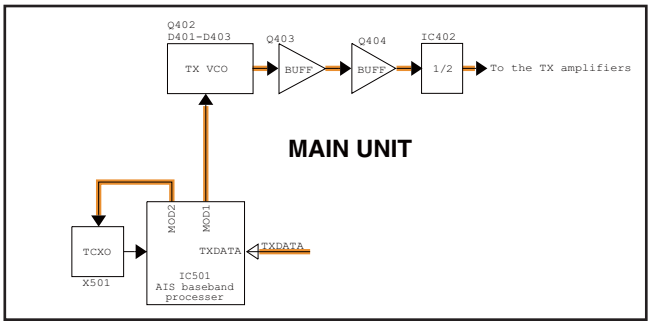


• AIS ENCODING AND MODULATION (MAIN UNIT)

The processed signal is output from the CPU (LOGIC UNIT; IC1) as AIS serial data to the AIS baseband IC (IC501) and encoded.

The data signal is applied to the TCXO and the TX VCO to obtain Gaussian Minimum Shift Keying (GMSK). The modulated signal is passed through two buffers (Q403 and Q404) and the divider (IC402), which divides the frequency in two, and is then applied to the TX AMP circuits.

• AIS ENCODING

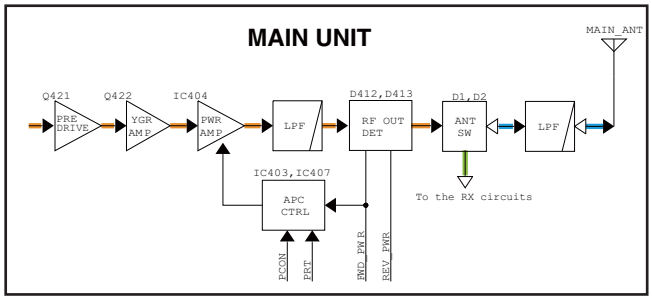


• TX AMPLIFIERS
The TX signal from the divider (IC402) is amplified by the pre-drive AMP (Q421), YGR AMP (Q422) and the power AMP (IC404) to obtain the TX output power.

The TX signal is passed through the antenna SW (D1) and the LPF (L2, L3, C4, C5) which attenuates the harmonic components in the TX signal, before it is sent to the antenna.

• APC CIRCUIT
The forward and reflected waves on the TX line are detected by the directional coupler (L427 and L428). The reflected wave is rectified by D413, resulting in a DC voltage that is applied to the A/D port of the CPU (LOGIC UNIT; IC1). The forward wave is rectified by D412, resulting in a DC voltage that is applied to both of the A/D port of the CPU (LOGIC UNIT; IC1) and the APC AMP (IC403) through the buffer (IC407).

The APC AMP (IC403) compares the input voltage with the reference voltage from the CPU, and outputs the resulting voltage which controls the gain of the power AMP (IC404) to keep the TX output power constant. When the PLL is unlocked, Q414 cuts off the power supply for the power AMP (IC404) to prevent unintended transmission, when the PLL is unlocked.

• TX AMP AND APC CIRCUITS


4-3 FREQUENCY SYNTHESIZER (MAIN UNIT)
• VCO-A (For receiving the channel A)
VCO-A generates the 1st LO signal for receive channel A. Q352 is the oscillator, Q353 and Q354 are buffer AMPs. The generated signal is buffered, and then applied to the 1st mixer for channel A (Q202) as the 1st LO signal.

A portion of the signal is fed back to the PLL IC (IC11) through the buffer AMP (Q355).

• VCO-B (For receiving the channel B)
VCO-B generates the 1st LO signal for receive channel B. Q302 is the oscillator, Q303 and Q304 are buffer AMPs. The generated signal is buffered, and then applied to the 1st mixer for channel B (Q102) as the 1st LO signal.

A portion of the signal is fed back to the PLL IC (IC11) through the buffer AMP (Q305).

• TX-VCO (For transmitting)
TX-VCO generates the TX signal. The VCO is GMSK modulated by applying the data signal to D403.

To ensure that all AIS data is transmitted, the VCO is running even while receiving, to eliminate PLL lock up time. Thus the VCO generates a signal whose frequency is two times of that of the transmit signal, to prevent interference while receiving. Q402 is the oscillator, Q403 and Q404 are buffer AMPs. The buffer-amplified signal is applied to the prescaler (IC402).

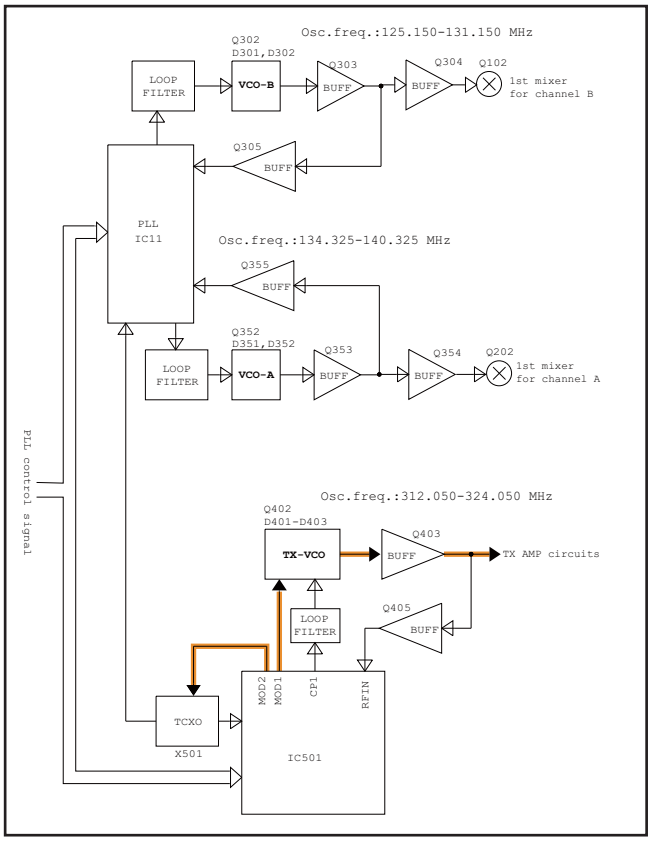
A portion of the signal is fed back to the PLL circuits in the AIS baseband processor (IC501) through the buffer AMP (Q405).

• PLL CIRCUITRY
IC11 is a dual PLL IC which contains a pair of PLL circuits; prescaler, phase comparator and charge pump. The 19.2 MHz reference frequency signal is provided by X501.

One of the PLL circuits is used for generating the 1st LO signal for receiving channel B, and is composed of the loop filter (R301–R303, C301–C305).

The other PLL circuit is used for generating the 1st LO signal for receive channel A, and is composed of the loop filter (R351–R353, C351–C355).

The AIS baseband processor (IC501) contains PLL circuitry to control the TX VCO. The 19.2 MHz reference clock is provided by the TCXO (X501) and it is also used as the PLL reference frequency signal.

• FREQUENCY SYNTHESIZER


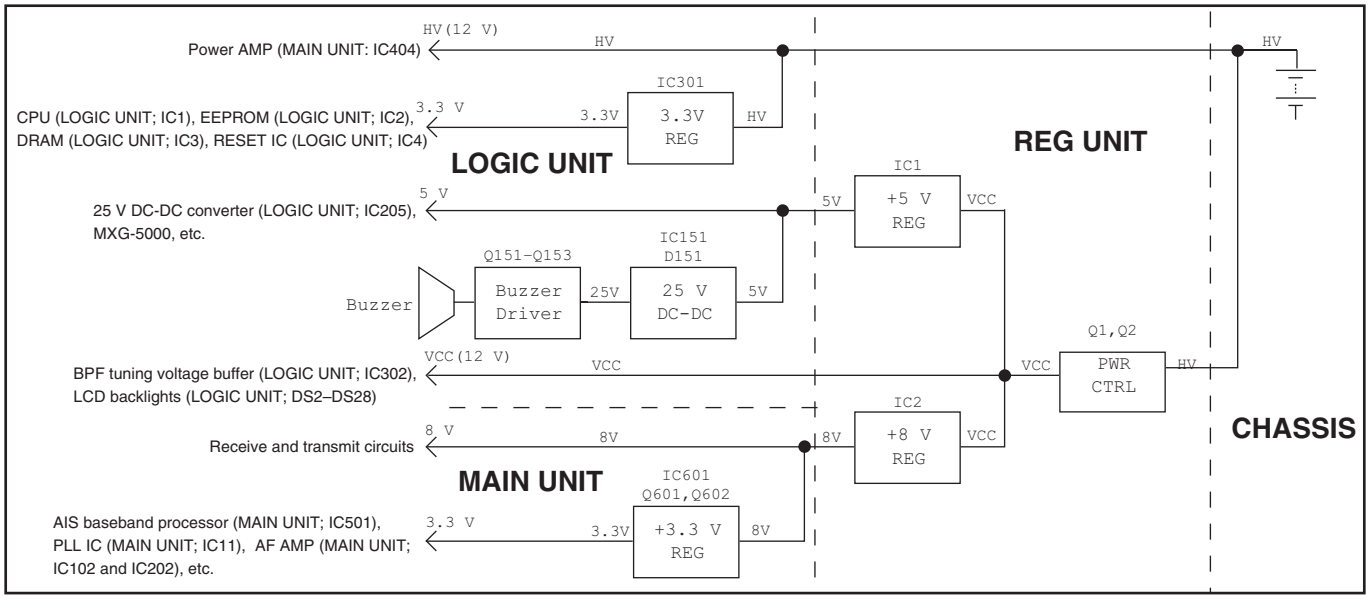
4-4 CPU (LOGIC UNIT; IC1) PORT ALLOCATION

Pin No.	Line name	Description	I/O
2	L_WR0	LCD driver write control.	O
3	L_CS1	LCD driver chip select signal (2/2).	O
5	L_RST	LCD driver reset control	O
8	EDATA	EEPROM serial data.	O
9	ECK	EEPROM serial clock.	O
10	3VC	3 V power line control. H=Power ON	O
11	RVASFT	VCO SW control.	O
12	RXD3	NMEA signal from the GPS equipment.	I
13	TXD3	NMEA signal to the GPS equipment.	O
14	RVASFT	VCO SW control.	O
15	PWRON	Responder power control. H=While the power is ON.	O
17	PRT	TX mute control. H=Mute	O
18	A17	Parallel data ports for the DRAM (IC3).	O
19	Q16	Parallel data ports for the DRAM (IC3).	O
20–37	A15–A1	Parallel data ports for the DRAM (IC3).	O
40	CLOUT	Cloning data.	O
41	CH_SEL	AF line SW control. L=Channel A	O
42	L_CD	LCD driver chip disable signal.	O
43	L_CS0	LCD driver chip select signal (1/2).	O
51	GPS_RX	Data interface for MXG-5000	I
52	GPS_TX	Data interface for MXG-5000	O
53	ALM_LVL	Alarm loud level control.	O
54	SLOT_O	Clock output. (For the AIS baseband processor)	O
55	RXD1	NMEA signal from the GPS equipment.	I
56–58	L_D0–L_D2	LCD driver parallel data ports.	O
59	TXD1	NMEA signal to the GPS equipment.	O
60	ALARM	Collision alarm control.	O
62, 63	L_D3, L_D4	LCD driver parallel data ports.	O
65–83	D0–D15	Parallel data ports for the DRAM (IC3).	O
84	BRILL	[BRILL] input. L=Pushed.	I
86	ALERTC	Alarm outpot control. H=While the alarm is output.	O
87	CLR	[CLR] input. L=Pushed.	I

Pin No.	Line name	Description	I/O
89	MENU	[MENU] input. L=Pushed.	I
90	DISP	[DISP] input. L=Pushed.	I
93	TXD2	NMEA signal to the GPS equipment.	O
94	RXD2	NMEA signal from the GPS equipment.	I
100	PS	PLL IC power control. L=While	O
101	CH_OUT	AF output control. L=AF output.	O
104–106	L_D5–L_D7	LCD driver parallel data ports.	O
116	EXSCC	Clock output. (For the AIS baseband processor)	O
118	LBAT	External power source detector.	I
119	FWD_P	Forward wave sensing voltage.	I
120	REV_P	Reflected wave sensing voltage.	I
122	TEMP	Temperature sensing voltage.	I
124	TXMUTE	Transmission mute. H=Mute.	O
126	UNLK	PLL unlock detect. H=Unlocked.	I
127	BPFBC	Channel B BPF tuning voltage.	O
128	BPFAC	Channel A BPF tuning voltage.	O
129	UP	[▲] input. L=Pushed.	I
130	LEFT	[◀] input. L=Pushed.	I
131	ENT	[ENT] input. L=Pushed.	I
132	RIGHT	[▶] input. L=Pushed.	I
134	PCK	PLL serial clock.	O
135	PDATA	PLL serial data.	O
136	PSTB	PLL strobe.	O
137, 138	RAM_WR0, RAM_WR1	Parallel data ports for the DRAM (IC3).	O
139	RAM_RD	DRAM (IC3) read/write control.	O
140	DOWN	[▼] input. L=Pushed.	I
144	RAM_CS	DRAM (IC3) chip select signal.	O

5-5 VOLTAGE BLOCK DIAGRAM

Voltage from the power supply is routed throughout the transponder through regulators and switches.



SECTION 5 ADJUSTMENT PROCEDURE

5-1 PREPARATION

■ REQUIRED EQUIPMENTS

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
Power supply	Voltage : 12.0 V Current capacity : 2 A	Cloning software	CS-MA500TR CLONING SOFTWARE (Revision 1.0 or later)
RF power meter (50 Ω terminated)	Measuring range : 0.1–5 W Frequency range : 100–300 MHz SWR : Less than 1.2 : 1	Frequency counter	Frequency range : 0.1–300 MHz Frequency accuracy : ±1 ppm or better Input level : Less than 1 mW
Modulation Analyzer	Frequency range : 30–300 MHz Measuring range : 0 to ±10 kHz	Standard signal generator (SSG)	Frequency range : 0.1–300 MHz Output level : –20 dBμ to 90 dBμ (–127 to –17 dBm)
Voltmeter	Measuring range : 0–10 V		
Attenuator	Power attenuation : 30 dB Capacity : More than 5 W	Dummy load (50 Ω terminated)	Capacity : More than 5 W

■ ENTERING ADJUSTMENT MODE

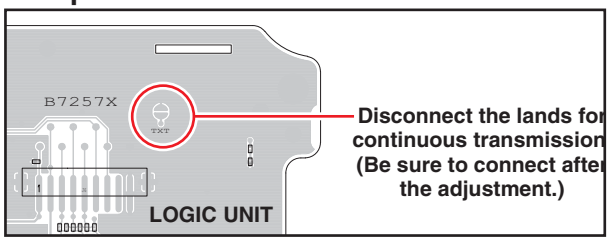
• Clone the adjustment mode into the MA-500TR using the CS-MA500TR.

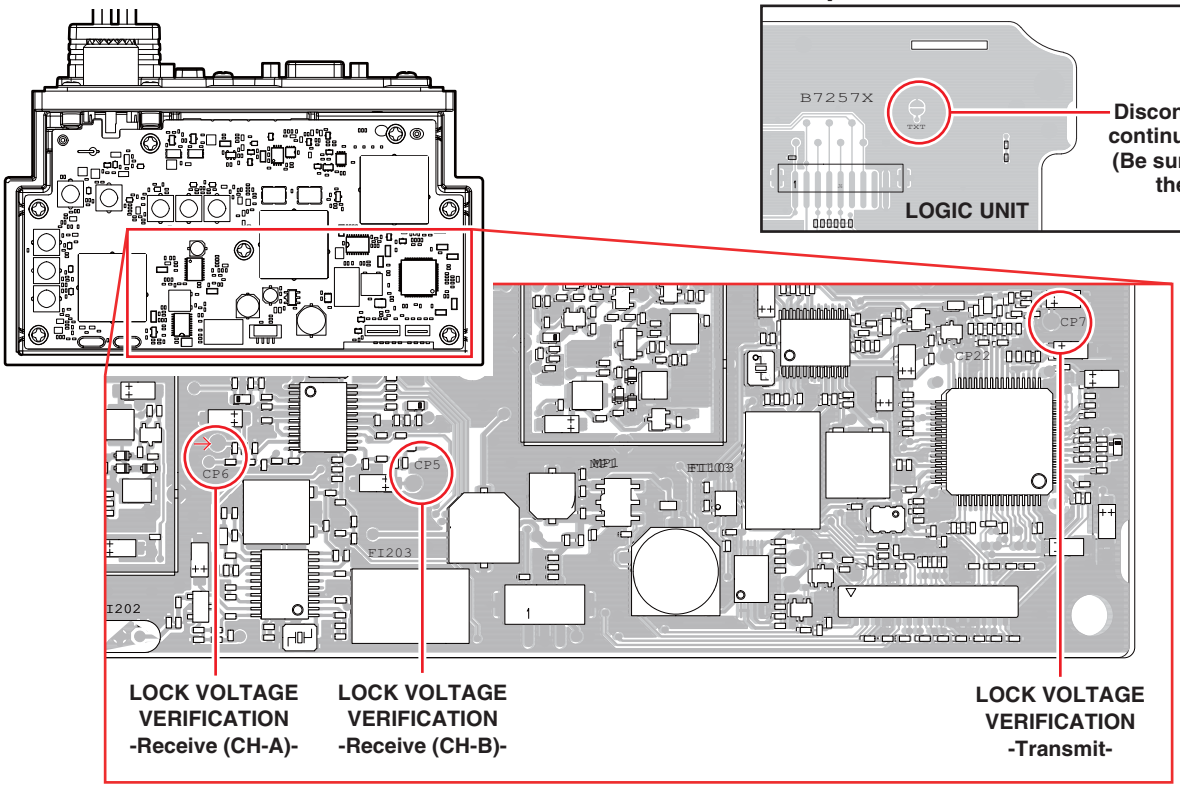
5-2 FREQUENCY ADJUSTMENTS

ADJUSTMENT		Transponder'S CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
LOCK VOLTAGE VERIFICATION -Receive (CH-A)-	1	• CH-A : 88B • Receiving	1) Enter to [ADJUSTMENT RX]. 2) Connect a voltmeter to CP6 (CH-A).	**CP6 (CH-A)** (On the MAIN UNIT)	1.3–2.3 V
-Receive (CH-B)-	2	• CH-B : 88B • Receiving	• Connect a voltmeter to CP5 (CH-B).	**CP5 (CH-B)** (On the MAIN UNIT)	1.4–2.6 V
-Transmit-	3	• TX CH : 88B	1) Connect a dummy load to the antenna. 2) Enter to [ADJUSTMENT TX]. 3) Connect a voltmeter to CP7.	**CP7** (On the MAIN UNIT)	1.4–2.5 V
TRANSMIT FREQUENCY VERIFICATION	1	• TX CH : 88B • Transmitting (Push **[MOB]**)	1) Connect a dummy load to the antenna. 2) Loosely couple a frequency counter to the antenna connector. 3) Enter to [ADJUSTMENT (TX)].	**[TX POWER]** (On the display)	162.02500 MHz (±300 Hz)

• ADJUSTMENT AND CHECK POINTS

• Preparation on the LOGIC UNIT

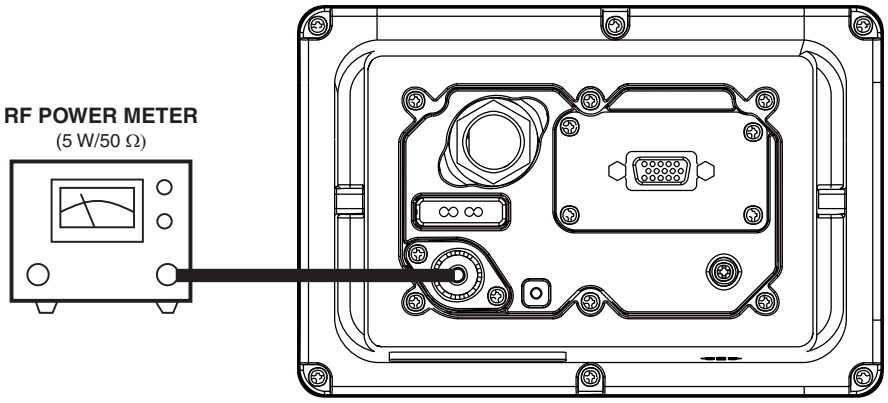




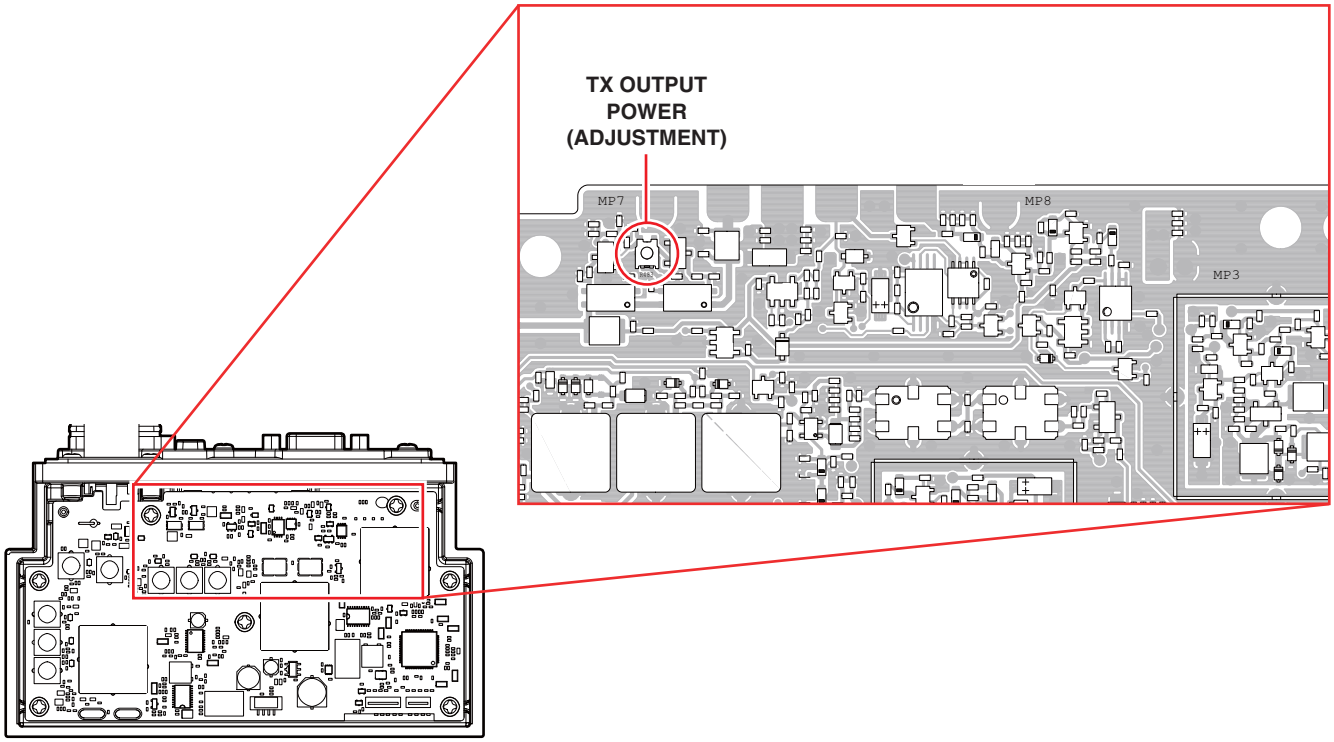
5-3 TRANSMIT ADJUSTMENTS

ADJUSTMENT		Transponder's CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
TX OUTPUT POWER (Preset)	1	• TX CH : 88B • Receiving	1) Connect an RF power meter to the antenna connector. 2) Enter to [ADJUSTMENT (TX)]. 3) Set the preset value.	**[TX POWER]** (On the display)	"720"
(Adjustment)	2	• TX CH : 88B • Transmitting (Push [MOB])	• Adjust the TX power.	**R483** (On the MAIN UNIT)	1.95–2.0 W

• CONNECTION



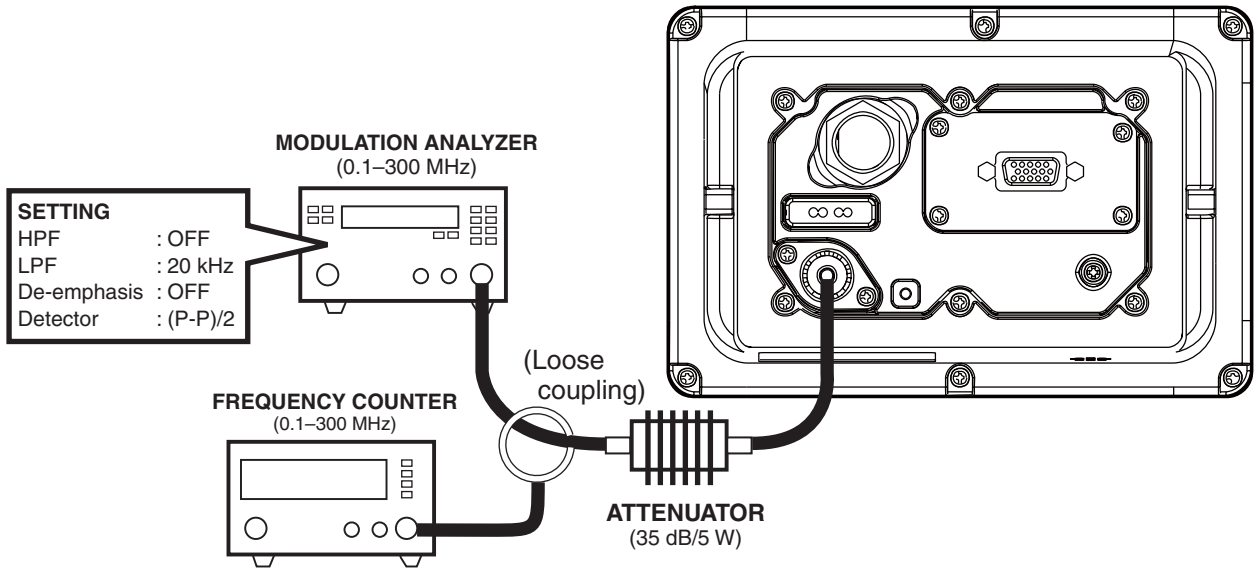
• ADJUSTMENT POINT



5-3 TRANSMIT ADJUSTMENTS (Continued)

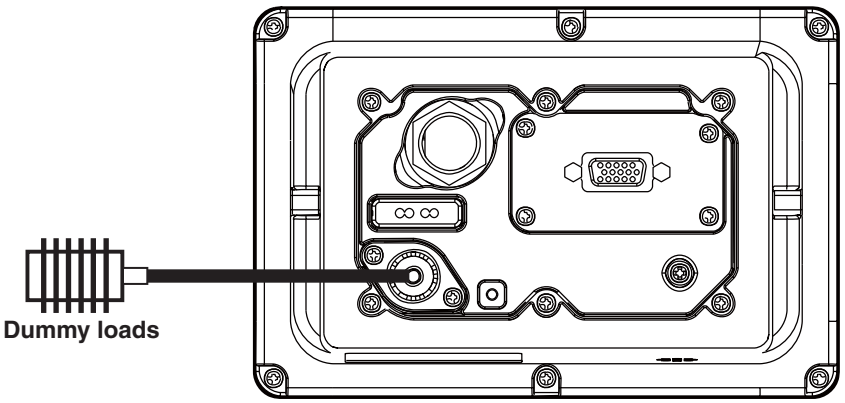
ADJUSTMENT		Transponder's CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
DEVIATION (Preparation)	1	• TX CH : 88B • Transmitting (Push **[MOB]**)	• Loosely couple a frequency counter to the antenna connector.	**[ADJUSTMENT (TX)]**	Note the frequency as the reference.
(Adjustment)	2	• TX CH : 88B • Transmitting (Push **[MOB]**)	1) Connect a modulation analyzer to the antenna connector through an attenuator, and set it as; HPF : OFF LPF : 20 kHz 2) Adjust the deviation using [◀]/[▶].	**[TCXO DEV]**	2.40–2.5 kHz lower than the reference frequency.
	3	• TX CH : 88B • Transmitting (Push **[MOB]**)		**[VCO DEV]**	±2.40 to ±2.5 kHz

• CONNECTION



ADJUSTMENT		Transponder's CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
VSWR DETECT (VSWR=3)	1	• TX CH : 88B • Transmitting (Push [MOB])	1) Enter to [ADJUSTMENT (TX)]. 2) Connect a 150 Ω dummy load to the antenna connector.	**[SWR 3]** (On the display)	Push [▶] to store the value.
(VSWR=5)	2	• TX CH : 88B • Transmitting (Push [MOB])	• Connect a 250 Ω dummy load to the antenna connector.	**[SWR 5]** (On the display)	Push [▶] to store the value.

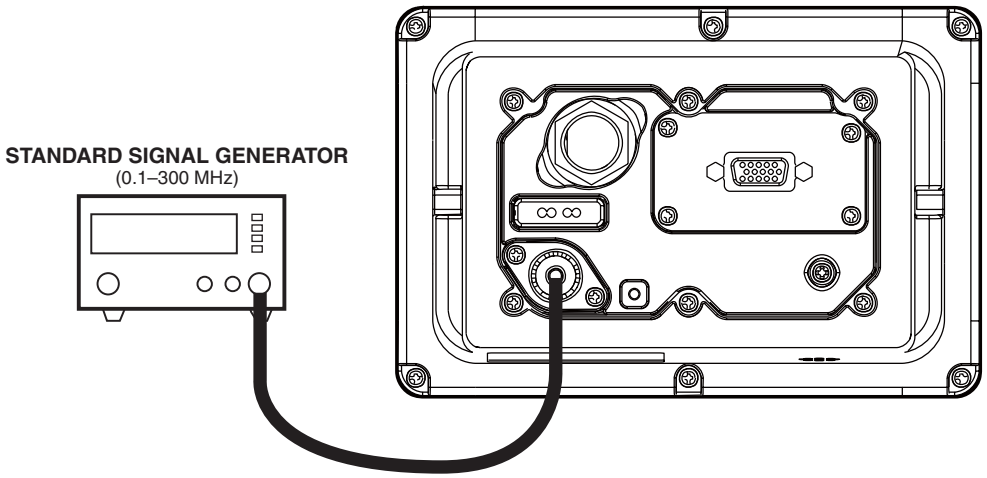
• CONNECTION



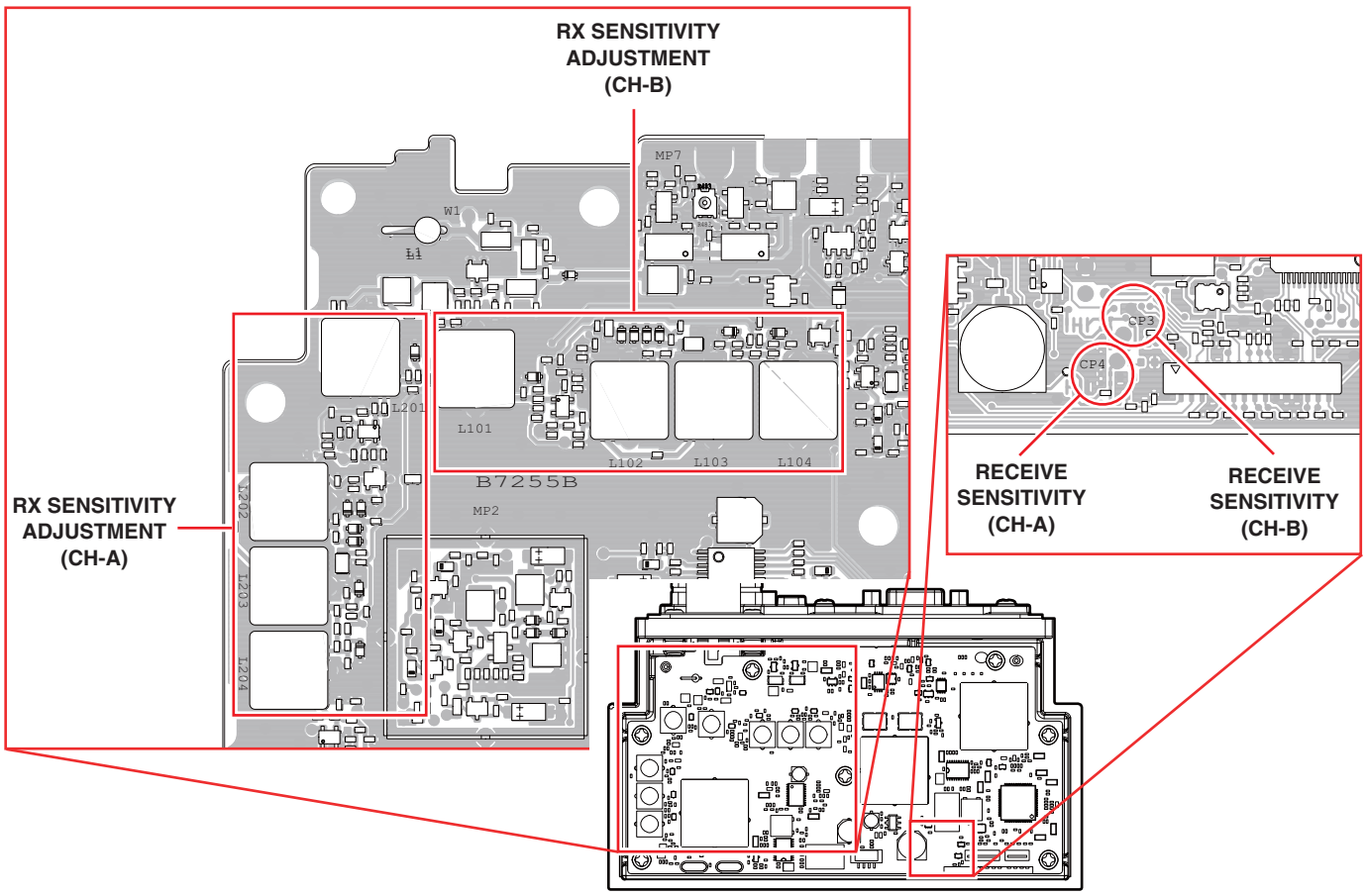
5-4 RECEIVE ADJUSTMENTS

ADJUSTMENT		Transponder's CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
RX SENSITIVITY (CH-A)	1	**NOTE:** When "RX SENSITIVITY" is re-adjusted, "CARRIER WAVE SENSITIVITY" must be re-adjusted too.			
		• CH-A : 88B • CH-B : 88B • Receiving	1) Connect an SSG to the antenna connector and set it as; Frequency : 162.025 MHz Level† : 17 dBμ (–90 dBm) Modulation : None 2) Connect a voltmeter to CP4, and adjust the voltage. 3) Enter to [ADJUSTMENT (RX)].	**L201→L202→ L203→L204 (In sequence)**	Max. voltage on **CP4**
(CH-B)	2		• Connect a voltmeter to CP3, and adjust the voltage.	**L101→L102→ L103→L104 (In sequence)**	Max. voltage on **CP3**

• CONNECTION



• ADJUSTMENT POINTS



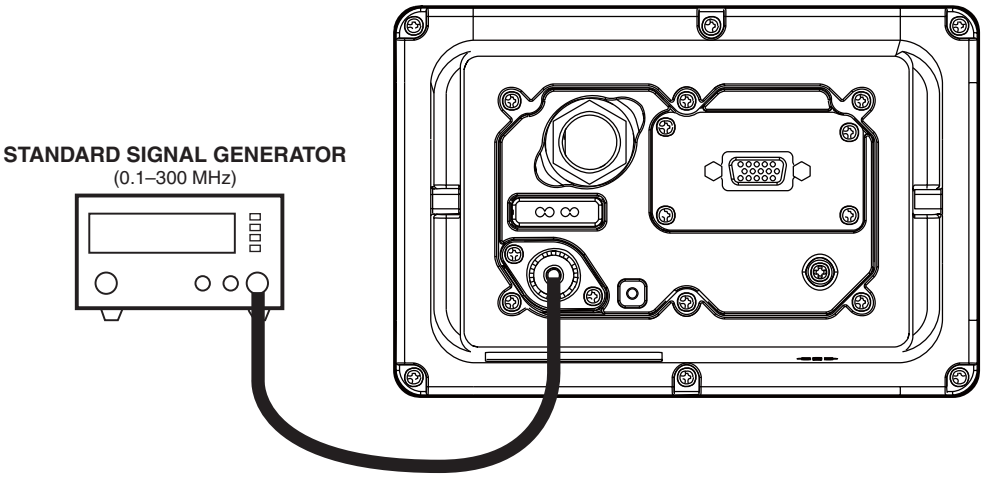
5-4 RECEIVE ADJUSTMENTS (continued)

†; The output level of the standard signal generator (SSG) is indicated as the SSG's open circuit.

ADJUSTMENT		Transponder's CONDITION	OPERATION	ADJUSTMENT ITEM	VALUE
CARRIER WAVE SENSITIVITY (CH-88B)	1	• CH-A : 88B • CH-B : 88B • Receiving	1) Enter to [ADJUSTMENT (RX)]. 2) Connect an SSG to the antenna connector and set it as; Frequency : 162.025 MHz Level† : 30 dBμ (–77 dBm) Modulation : None	**[–77(H)]** (On the display)	Push [▶] to store the value.
	2		• Set the SSG as; Level† : 0 dBμ (–107 dBm)	**[–107(H)]** (On the display)	Push [▶] to store the value.
(CH-01)	3	• CH-A : 01 • CH-B : 01 • Receiving	• Connect an SSG to the antenna connector and set it as; Frequency : 156.050 MHz Level† : 30 dBμ (–77 dBm) Modulation : None	**[–77(L)]** (On the display)	Push [▶] to store the value.
	4		• Set the SSG as; Level† : 0 dBμ (–107 dBm)	**[–107(L)]** (On the display)	Push [▶] to store the value.

†; The output level of the standard signal generator (SSG) is indicated as the SSG's open circuit.

• CONNECTION



SECTION 6 PARTS LIST

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
IC2	1130013110	S.IC	KIC7W53FK-RTK/P	T	86/14.5
IC11	1130013980	S.IC	MB15F72ULPFT	T	48.2/22.6
IC101	1110007300	S.IC	NJM2552V-TE1-#ZZZB	T	94.4/29.6
IC201	1110007300	S.IC	NJM2552V-TE1-#ZZZB	T	44.6/6.9
IC401	1180002680	S.REG	S-812C50BMC-C5E-T2G	T	85.7/51.2
IC402	1110004460	S.IC	UPB1509GV-E1	T	89.7/53.9
IC403	1110002751	S.IC	TA75S01F(TE85R,F)	T	58.4/55
IC404	1150002440	IC	RA08H1317M1-121		
IC405	1110003790	S.IC	NJM2903V-TE1-#FMZB	T	71.7/54.9
IC406	1130007061	S.IC	TC7W02FU(TE12L,F)	T	75.4/55.8
IC407	1110002751	S.IC	TA75S01F(TE85R,F)	T	53/50.2
IC501	1190002850	S.IC	CMX7032L9/TR (FI-2.0)	T	111.7/20.3
IC601	1180003570	S.REG	NJM2830U1-33-TE1-#ZZZB	T	75.8/14.6
Q101	1580000751	S.FET	3SK294(TE85L,F)	T	32.2/39.3
Q102	1580000731	S.FET	3SK293(TE85L,F)	T	61.1/42.1
Q103	1590004010	S.TRA	KRA302-RTK/P	T	56.6/46
Q104	1590003680	S.TRA	KRC402 RTK/P	T	95.1/7.7
Q105	1530003890	S.TRA	KTC3880S Y-RTK/P	T	88.9/43.2
Q201	1580000751	S.FET	3SK294(TE85L,F)	T	13.8/36.9
Q202	1580000731	S.FET	3SK293(TE85L,F)	T	10.1/7.9
Q203	1590004010	S.TRA	KRA302-RTK/P	T	14.4/32.4
Q204	1590003680	S.TRA	KRC402 RTK/P	T	93.1/4.5
Q205	1530003890	S.TRA	KTC3880S Y-RTK/P	T	36.7/4.8
Q301	1530002691	S.TRA	2SC4116-GR(TE85R,F)	T	80.8/34.4
Q302	1560000990	S.FET	PMBFJ310	T	77/29.5
Q303	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	76.3/33.8
Q304	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	71.6/35.7
Q305	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	71.8/31.8
Q306	1590003680	S.TRA	KRC402 RTK/P	T	79.7/22.4
Q351	1530002691	S.TRA	2SC4116-GR(TE85R,F)	T	24.1/10.6
Q352	1560000990	S.FET	PMBFJ310	T	26.3/16.4
Q353	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	22.5/17
Q354	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	19.8/14.5
Q355	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	20.3/22.1
Q356	1590003680	S.TRA	KRC402 RTK/P	T	32/20.9
Q401	1530002691	S.TRA	2SC4116-GR(TE85R,F)	T	98.6/45.8
Q402	1560000990	S.FET	PMBFJ310	T	103.8/43.5
Q403	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	104.4/47.3
Q404	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	101.4/50
Q405	1530002920	S.TRA	2SC4226-T1 R25	T	108.7/50.7
Q411	1510001090	S.TRA	KTA2015Y-RTK/P	T	81.6/51.8
Q412	1590003680	S.TRA	KRC402 RTK/P	T	90.6/47.7
Q413	1510000671	S.TRA	2SA1588-GR(TE85R, F)	T	64.2/55.8
Q414	1590003680	S.TRA	KRC402 RTK/P	T	63.9/53
Q415	1590003680	S.TRA	KRC402 RTK/P	T	69.8/60.2
Q416	1590004010	S.TRA	KRA302-RTK/P	T	78/51.8
Q417	1590001060	S.TRA	DTA114TUA T106	T	85.9/54.4
Q421	1530002601	S.TRA	2SC4215-O(TE85R,F)	T	86/60.5
Q422	1530002920	S.TRA	2SC4226-T1 R25	T	80.6/57.6
Q502	1590003680	S.TRA	KRC402 RTK/P	T	107.2/30.6
Q503	1530002691	S.TRA	2SC4116-GR(TE85R,F)	T	104.1/31.8
D1	1750001930	S.DIO	HVD147KRF-E	T	32.9/51.8
D2	1750001930	S.DIO	HVD147KRF-E	T	25.8/48.7
D3	1790001211	S.DIO	1SS375-TL-E	T	24.1/52.1
D101	1750000981	S.VAR	1SV278(TPH3,F)	T	29.5/42.1
D102	1750000981	S.VAR	1SV278(TPH3,F)	T	40.2/46.1
D103	1750000981	S.VAR	1SV278(TPH3,F)	T	41.4/46.1
D104	1750000981	S.VAR	1SV278(TPH3,F)	T	39/46.1
D105	1750000981	S.VAR	1SV278(TPH3,F)	T	37.8/46.1
D106	1750000981	S.VAR	1SV278(TPH3,F)	T	48.1/46.4
D107	1750000981	S.VAR	1SV278(TPH3,F)	T	52.7/46.3
D201	1750000981	S.VAR	1SV278(TPH3,F)	T	18.2/44.4
D202	1750000981	S.VAR	1SV278(TPH3,F)	T	12.5/27.7
D203	1750000981	S.VAR	1SV278(TPH3,F)	T	12.5/26.5
D204	1750000981	S.VAR	1SV278(TPH3,F)	T	11.8/29.6
D205	1750000981	S.VAR	1SV278(TPH3,F)	T	13.1/29.6
D206	1750000981	S.VAR	1SV278(TPH3,F)	T	12.9/22
D207	1750000981	S.VAR	1SV278(TPH3,F)	T	13/16.2
D301	1720000811	S.VAR	HVC358BTRF-E	T	77.2/24
D302	1720000811	S.VAR	HVC358BTRF-E	T	77.2/26.5
D303	1790001261	S.DIO	MA2S077G0L	T	76/24.7
D351	1720000811	S.VAR	HVC358BTRF-E	T	31.8/17.8
D352	1720000811	S.VAR	HVC358BTRF-E	T	29.3/17.8
D353	1790001261	S.DIO	MA2S077G0L	T	29.3/19
D401	1750000711	S.VAR	HVC350BTRF-E	T	105/37.9
D402	1750000711	S.VAR	HVC350BTRF-E	T	105/40.4
D403	1750000711	S.VAR	HVC350BTRF-E	T	106.2/39.7
D411	1730002830	S.ZEN	DZ2J051M0L	T	65.2/58.3
D412	1790000491	S.DIO	HSM88ASTR-E	T	48.6/58.6
D413	1790000491	S.DIO	HSM88ASTR-E	T	41.8/58.2
D414	1790001251	S.DIO	MA2S1110GL	T	83.2/48.7
D415	1720000361	S.DIO	HSU88TRF-E	T	58.4/49.8
FI101	2030000640	MON	FL-413(MCF UM-5-3P) 30.875 MHz		
FI102	2030000640	MON	FL-413(MCF UM-5-3P) 30.875 MHz		
FI103	2020002580	CER	CFWLA450KEFY-B0		
FI201	2030000350	MON	21R15AB (FL-368)		
FI202	2030000481	MON	21R15AB (FL-399A)		
FI203	2020002580	CER	CFWLA450KEFY-B0		

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
X101	6050012570	S.XTA	CR-845 DSX321G 30.425 MHz <KDS>	T	89.3/27.2
X102	6070000300	S.DIS	JTBM450CX24 <JJE>	T	98.4/18.3
X201	6050013020	S.XTA	CR-894 TSS-3225A 21.250 MHz	T	46/1.9
X202	6070000300	S.DIS	JTBM450CX24 <JJE>	T	44/13.7
X501	6050013010	S.XTA	CR-896 TTS18VSE-A11 19.2 MHz	T	101.2/13
L1	6170000401	COI	LW-38A		
L2	6200013060	S.COI	0.20-1.0-12TL 48.0N <COMO>	T	25.9/55.1
L3	6200013060	S.COI	0.20-1.0-12TL 48.0N <COMO>	T	29/53.7
L5	6200013060	S.COI	0.20-1.0-12TL 48.0N <COMO>	T	28.3/50.6
L6	6200012510	S.COI	0.25-1.9-8TL 72.0N <COMO>	T	20.1/49.7
L7	6200012510	S.COI	0.25-1.9-8TL 72.0N <COMO>	T	16.5/50.3
L101	6150003821	COI	LS-440-LF		
L102	6150003821	COI	LS-440-LF		
L103	6150003821	COI	LS-440-LF		
L104	6150003821	COI	LS-440-LF		
L105	6200007360	S.COI	ELJND R47J	T	44.6/45.2
L106	6200007360	S.COI	ELJND R47J	T	63.4/41.6
L111	6200010840	S.COI	MLG1608B 56NJ-T	T	62.1/35.7
L112	6200010840	S.COI	MLG1608B 56NJ-T	T	62.1/38.5
L201	6150003821	COI	LS-440-LF		
L202	6150003821	COI	LS-440-LF		
L203	6150003821	COI	LS-440-LF		
L204	6150003821	COI	LS-440-LF		
L205	6200007360	S.COI	ELJND R47J	T	11.3/24.4
L206	6200010090	S.COI	ELJND R82JF	T	9.6/5.3
L211	6200010840	S.COI	MLG1608B 56NJ-T	T	19.2/6.1
L212	6200010840	S.COI	MLG1608B 56NJ-T	T	16.4/6.1
L301	6200010810	S.COI	C2520C-2R2G-A	T	73/24.6
L311	6200014030	S.COI	0.30-1.8-7TL 50.8N COAT <COMO>	T	79.3/25.6
L312	6200010810	S.COI	C2520C-2R2G-A	T	82.1/30.9
L313	6200009560	S.COI	MLG1608B R10J-T	T	74.7/35.6
L314	6200009560	S.COI	MLG1608B R10J-T	T	69.4/36.7
L315	6200009560	S.COI	MLG1608B R10J-T	T	69.6/30.1
L316	6200010840	S.COI	MLG1608B 56NJ-T	T	56.9/23.7
L351	6200010810	S.COI	C2520C-2R2G-A	T	29.1/21.9
L361	6200013420	S.COI	0.30-1.6-7TR 41.8N <COMO>	T	30.7/15.7
L362	6200010810	S.COI	C2520C-2R2G-A	T	24.4/20.4
L363	6200009560	S.COI	MLG1608B R10J-T	T	20.5/18.3
L364	6200009560	S.COI	MLG1608B R10J-T	T	17.9/14.4
L365	6200009560	S.COI	MLG1608B R10J-T	T	21.1/24.1
L366	6200010840	S.COI	MLG1608B 56NJ-T	T	40.6/24.3
L401	6200010450	S.COI	C2520C-R82G-A (0.82U)	T	109.1/40.4
L411	6200012140	S.COI	C2520C-18NG-A	T	102.7/39.3
L412	6200010450	S.COI	C2520C-R82G-A (0.82U)	T	107.8/45.1
L413	6200009600	S.COI	MLG1608B 33NJ-T	T	105.4/49.4
L414	6200009600	S.COI	MLG1608B 33NJ-T	T	100.6/51.9
L415	6200009600	S.COI	MLG1608B 33NJ-T	T	110.8/49.9
L416	6200009550	S.COI	MLG1608B 27NJ-T	T	122.8/19.8
L421	6200009560	S.COI	MLG1608B R10J-T	T	83.8/61
L422	6200011770	S.COI	LQW18ANR10G00D	T	78.4/59
L423	6200009680	S.COI	MLG1608B 47NJ-T	T	76.2/60.1
L426	6200012470	S.COI	0.30-1.7-7TL 45.3N <COMO>	T	53.2/59.3
L427	6200009090	S.COI	DCS3D20-0157-G-TR	T	49.5/54.4
L428	6200009090	S.COI	DCS3D20-0157-G-TR	T	42.3/54.4
L429	6200010810	S.COI	C2520C-2R2G-A	T	41.7/51.3
R2	7030010040	S.RES	ERJ2GEJ-JPW	T	22.4/50.2
R8	7030009160	S.RES	ERJ2GEJ 181 X (180)	T	17.6/48.1
R23	7030010040	S.RES	ERJ2GEJ-JPW	T	91.1/10.9
R28	7030010040	S.RES	ERJ2GEJ-JPW	T	91.1/3.9
R41	7030005120	S.RES	ERJ2GEJ 102 X (1K)	T	43.8/18.5
R42	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	45.4/18.5
R43	7030004980	S.RES	ERJ2GEJ 101 X (100)	T	55.5/20.9
R45	7030004980	S.RES	ERJ2GEJ 101 X (100)	T	54.6/24.5
R47	7030004980	S.RES	ERJ2GEJ 101 X (100)	T	54.6/25.4
R49	7030004980	S.RES	ERJ2GEJ 101 X (100)	T	54.6/26.3
R51	7030011660	S.RES	ERJ2RKF 1002 (10K)	T	51.1/12.8
R52	7510001760	S.THE	NTCG10 4BH 103JT	T	49.8/11.7
R53	7030005120	S.RES	ERJ2GEJ 102 X (1K)	T	51.1/11.2
R101	7030005060	S.RES	ERJ2GEJ 333 X (33K)	T	29.7/38.2
R102	7030005220	S.RES	ERJ2GEJ 223 X (22K)	T	29.9/39.1
R103	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	32.8/37.5
R104	7030005240	S.RES	ERJ2GEJ 473 X (47K)	T	31.2/36.6
R105	7030007270	S.RES	ERJ2GEJ 151 X (150)	T	33.7/36.6
R106	7030011210	S.RES	ERJ2GEJ 1R0 X (1)	T	34.1/38.2
R107	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	33.6/41.9
R111	7030004980	S.RES	ERJ2GEJ 101 X (100)	T	35.3/45.2
R112	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	30.7/43.7
R113	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	43.4/46.9
R114	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	50/45.6
R115	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	50.9/45.6
R116	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	T	95.5/9.6
R121	7030005170	S.RES	ERJ2GEJ 474 X (470K)	T	60.5/45
R122	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	60.6/43.8
R123	7030005100	S.RES	ERJ2GEJ 154 X (150K)	T	64.5/39.5
R124	7030007350	S.RES	ERJ2GEJ 393 X (39K)	T	63.2/39
R125	7030005530	S.RES	ERJ2GEJ 100 X (10)	T	63.3/46.6
R126	7030007300	S.RES	ERJ2GEJ 332 X (3.3K)	T	65.2/43
R127	7030008370	S.RES	ERJ2GEJ 561 X (560)	T	64.7/45.2
R128	7030008370	S.RES	ERJ2GEJ 561 X (560)	T	86.2/42.4
R129	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	88.4/45.4
R130	7030007300	S.RES	ERJ2GEJ 332 X (3.3K)	T	88.1/40.1
R131	7030007280	S.RES	ERJ2GEJ 331 X (330)	T	89.7/41

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R141	7030004970	S.RES ERJ2GEJ 470 X (47)	T	90.4/30
R142	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	89.9/24.3
R143	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	97.5/23.8
R145	7030005000	S.RES ERJ2GEJ 471 X (470)	T	99.6/31.4
R146	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	98.9/30.5
R147	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	99.3/29.3
R148	7030005000	S.RES ERJ2GEJ 471 X (470)	T	98.4/29.3
R201	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	13.2/38.8
R202	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	14.4/39.1
R203	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	9.9/35.6
R204	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	11.7/38.1
R205	7030007270	S.RES ERJ2GEJ 151 X (150)	T	10.1/34.7
R206	7030011210	S.RES ERJ2GEJ 1R0 X (1)	T	12.4/34.7
R207	7030004970	S.RES ERJ2GEJ 470 X (47)	T	15.2/34.7
R211	7030004980	S.RES ERJ2GEJ 101 X (100)	T	12.4/32.3
R212	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	19.4/41.9
R213	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	14.5/28.4
R214	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	12.2/19.4
R215	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	11.8/18.2
R216	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	93.5/2.6
R221	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	12.2/9.5
R222	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	11/11
R223	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	13.6/6.2
R224	7030007350	S.RES ERJ2GEJ 393 X (39K)	T	13.6/4.6
R225	7030005530	S.RES ERJ2GEJ 100 X (10)	T	13/8.6
R226	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	11.1/3.4
R227	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	14.1/2.9
R228	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	34.6/3.3
R229	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	36.5/2.6
R230	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	38.2/1.7
R231	7030007280	S.RES ERJ2GEJ 331 X (330)	T	38.2/2.6
R241	7030004970	S.RES ERJ2GEJ 470 X (47)	T	48.9/15.5
R243	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	48.5/12.4
R245	7030005000	S.RES ERJ2GEJ 471 X (470)	T	39.9/11.5
R246	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	39.5/9.6
R247	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	39.1/8.2
R248	7030005000	S.RES ERJ2GEJ 471 X (470)	T	38.2/8.2
R251	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	86.2/10.5
R252	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	100.8/10.5
R253	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	102/10.1
R261	7030010040	S.RES ERJ2GEJ-JPW	T	16.8/3.2
R262	7030010040	S.RES ERJ2GEJ-JPW	T	16.80.8
R263	7030010040	S.RES ERJ2GEJ-JPW	T	21.2/3.2
R264	7030010040	S.RES ERJ2GEJ-JPW	T	21.20.8
R265	7030010040	S.RES ERJ2GEJ-JPW	T	26.9/3.2
R266	7030010040	S.RES ERJ2GEJ-JPW	T	26.90.8
R267	7030010040	S.RES ERJ2GEJ-JPW	T	31.3/3.2
R268	7030010040	S.RES ERJ2GEJ-JPW	T	31.30.8
R301	7030005010	S.RES ERJ2GEJ 681 X (680)	T	53.7/18.7
R302	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	T	55/18.3
R303	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	56.4/19.7
R311	7030004970	S.RES ERJ2GEJ 470 X (47)	T	76.7/37.5
R312	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	82.7/34
R313	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	83.7/34
R314	7030004970	S.RES ERJ2GEJ 470 X (47)	T	78.2/31.9
R315	7030005000	S.RES ERJ2GEJ 471 X (470)	T	76.3/36.6
R316	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	75.4/32
R317	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	84.2/31.6
R321	7030004970	S.RES ERJ2GEJ 470 X (47)	T	73.6/35.3
R322	7030004990	S.RES ERJ2GEJ 221 X (220)	T	70.6/33.8
R323	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	72.2/33.9
R326	7030005000	S.RES ERJ2GEJ 471 X (470)	T	68.3/33.5
R327	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	73.5/30.9
R331	7030005570	S.RES ERJ2GEJ 820 X (82)	T	69.9/28.1
R332	7030004980	S.RES ERJ2GEJ 101 X (100)	T	68.6/28.6
R333	7030005570	S.RES ERJ2GEJ 820 X (82)	T	69.5/27.2
R334	7030004970	S.RES ERJ2GEJ 470 X (47)	T	55.1/22.3
R341	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	74.3/22.5
R342	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	74.6/26.8
R343	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	74.6/27.7
R351	7030005010	S.RES ERJ2GEJ 681 X (680)	T	41.3/18.4
R352	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	T	40.8/19.7
R353	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	39.5/18.4
R361	7030004970	S.RES ERJ2GEJ 470 X (47)	T	21/11.4
R362	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	25.9/10.4
R363	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	26.5/11.7
R364	7030004970	S.RES ERJ2GEJ 470 X (47)	T	23.2/13.9
R365	7030005000	S.RES ERJ2GEJ 471 X (470)	T	22.8/12.7
R366	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	23/15.2
R367	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	26.5/21.5
R371	7030004970	S.RES ERJ2GEJ 470 X (47)	T	20.1/16.4
R372	7030004990	S.RES ERJ2GEJ 221 X (220)	T	17.4/17.9
R373	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	21.5/14.8
R376	7030005000	S.RES ERJ2GEJ 471 X (470)	T	18.3/21.9
R377	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	18.5/20.6
R381	7030005570	S.RES ERJ2GEJ 820 X (82)	T	23.3/24.7
R382	7030004980	S.RES ERJ2GEJ 101 X (100)	T	24.6/25.2
R383	7030005570	S.RES ERJ2GEJ 820 X (82)	T	25.9/24.7
R384	7030004970	S.RES ERJ2GEJ 470 X (47)	T	42.4/25.8
R391	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	31/19.3
R392	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	27.4/19.4
R393	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	26.5/19
R401	7030005010	S.RES ERJ2GEJ 681 X (680)	T	113.3/32.3
R402	7030005010	S.RES ERJ2GEJ 681 X (680)	T	114.2/34.2
R403	7030005290	S.RES ERJ2GEJ 682 X (6.8K)	T	112.8/33.8
R411	7030004970	S.RES ERJ2GEJ 470 X (47)	T	98.7/48.8
R412	7030009140	S.RES ERJ2GEJ 272 X (2.7K)	T	97.9/44
R413	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	T	99.1/43.6
R414	7030004970	S.RES ERJ2GEJ 470 X (47)	T	101.3/45.7
R415	7030005000	S.RES ERJ2GEJ 471 X (470)	T	101.3/46.7
R416	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	102.6/46.7
R417	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	110.4/44.5
R421	7030004970	S.RES ERJ2GEJ 470 X (47)	T	103.4/49.6
R422	7030004990	S.RES ERJ2GEJ 221 X (220)	T	103.2/52.7
R423	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	102/48.2

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REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R424	7030007270	S.RES ERJ2GEJ 151 X (150)	T	98.8/52.2
R425	7030009200	S.RES ERJ2GEJ 390 X (39)	T	97.4/50.5
R426	7030007270	S.RES ERJ2GEJ 151 X (150)	T	97.8/52.2
R428	7030005000	S.RES ERJ2GEJ 471 X (470)	T	108.6/52.7
R429	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	106.8/51.9
R431	7030007270	S.RES ERJ2GEJ 151 X (150)	T	112/48.2
R432	7030009200	S.RES ERJ2GEJ 390 X (39)	T	112.4/47
R433	7030007270	S.RES ERJ2GEJ 151 X (150)	T	112/45.8
R434	7030005580	S.RES ERJ2GEJ 560 X (56)	T	121.3/18.7
R436	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	108.2/38.3
R437	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	109.4/37.9
R441	7030005530	S.RES ERJ2GEJ 100 X (10)	T	87.2/56
R443	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	82.8/50
R444	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	83.5/51.3
R445	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	92.6/46.7
R451	7030007270	S.RES ERJ2GEJ 151 X (150)	T	87.8/58.7
R452	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	86/58.7
R453	7030005010	S.RES ERJ2GEJ 681 X (680)	T	86/57.8
R454	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	82.7/61
R455	7030005530	S.RES ERJ2GEJ 100 X (10)	T	83/56.9
R456	7030004980	S.RES ERJ2GEJ 101 X (100)	T	80.9/54.5
R457	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	81.3/55.8
R458	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	82.6/58.2
R459	7030004970	S.RES ERJ2GEJ 470 X (47)	T	81.5/59.7
R460	7030008280	S.RES ERJ2GEJ 271 X (270)	T	74.4/61.7
R461	7030010090	S.RES ERJ2GEJ 180 X (18)	T	73.9/60.4
R462	7030008280	S.RES ERJ2GEJ 271 X (270)	T	73.5/61.7
R466	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	66/56.2
R467	7030005160	S.RES ERJ2GEJ 105 X (1M)	T	66/54.5
R471	7030004970	S.RES ERJ2GEJ 470 X (47)	T	61.8/58.3
R472	7030004970	S.RES ERJ2GEJ 470 X (47)	T	61.6/56.5
R473	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	61.6/54.8
R474	7030005010	S.RES ERJ2GEJ 681 X (680)	T	60.7/56.5
R475	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	60.8/52.8
R476	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	57.4/52.3
R477	7030005160	S.RES ERJ2GEJ 105 X (1M)	T	58.4/52.3
R478	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	59.9/52.4
R479	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	55.2/49.5
R480	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	50.4/51.3
R481	7030007250	S.RES ERJ2GEJ 220 X (22)	T	46.1/55.5
R482	7030005590	S.RES ERJ2GEJ 680 X (68)	T	52/56.4
R483	7310004640	S.TRI EVM-2WSX80 B34 (303)	T	45.7/58.6
R484	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	44.3/60.9
R486	7030007250	S.RES ERJ2GEJ 220 X (22)	T	44/56.4
R487	7030005590	S.RES ERJ2GEJ 680 X (68)	T	39.4/56.4
R488	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	42.4/60.4
R489	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	40.7/60.4
R490	7030005010	S.RES ERJ2GEJ 681 X (680)	T	45.8/51.3
R491	7030009150	S.RES ERJ2GEJ 824 X (820K)	T	69.2/53.4
R492	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	75.7/51.7
R493	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	74/51
R494	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	77.6/55.7
R495	7030011490	S.RES ERJ2RKF 7502X (75K)	T	69.2/55.1
R496	7030010020	S.RES ERJ2RKF 154 X (150K)	T	69.2/56.8
R497	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	74.3/52.2
R498	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	69.3/51.3
R502	7030011150	S.RES ERJ2GEJ 2R7 X (2.7)	T	105.5/11.9
R504	7030004980	S.RES ERJ2GEJ 101 X (100)	T	108.3/12.2
R505	7030004980	S.RES ERJ2GEJ 101 X (100)	T	107.4/12.2
R506	7030004980	S.RES ERJ2GEJ 101 X (100)	T	110.9/12.6
R507	7030004980	S.RES ERJ2GEJ 101 X (100)	T	112.2/12.2
R511	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	115.5/12.2
R512	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	119.1/15
R513	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	120/15
R521	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	119.7/18.7
R522	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	120.2/22.8
R523	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	114.5/8.6
R524	7030011210	S.RES ERJ2GEJ 1R0 X (1)	T	117.8/27.3
R531	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	111.7/32.6
R532	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	111.7/30.9
R533	7030010040	S.RES ERJ2GEJ-JPW	T	112.6/30.9
R536	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	109.5/32.6
R537	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	109.9/30.9
R538	7030010040	S.RES ERJ2GEJ-JPW	T	110.8/30.9
R541	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	105.3/29.8
R542	7030010040	S.RES ERJ2GEJ-JPW	T	105.3/28.1
R602	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	76.6/11.6
R603	7030004980	S.RES ERJ2GEJ 101 X (100)	T	71.1/11
R604	7030004980	S.RES ERJ2GEJ 101 X (100)	T	72.4/11
R605	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	99.6/9.1
C3	4030010370	S.CER C1005 CH 1H 300J-T	T	29.4/56.2
C4	4030019650	S.CER C1005 CH 1H 050B-T	T	30.6/54.6
C5	4030009770	S.CER C1005 CH 1H 220J-T	T	31/53.3
C6	4030019740	S.CER C1005 JB 1H 102K-T	T	30.6/51.9
C7	4030009830	S.CER C1005 CH 1H 180J-T	T	29.7/48.6
C8	4030009830	S.CER C1005 CH 1H 180J-T	T	27/48.6
C9	4030019740	S.CER C1005 JB 1H 102K-T	T	25.6/50.6
C10	4030019740	S.CER C1005 JB 1H 102K-T	T	24/50.2
C11	4030009780	S.CER C1005 CH 1H 270J-T	T	22.3/48.8
C31	4030019740	S.CER C1005 JB 1H 102K-T	T	86.5/11.8
C34	4030019740	S.CER C1005 JB 1H 102K-T	T	84.2/16
C35	4030019740	S.CER C1005 JB 1H 102K-T	T	84.2/14.3
C41	4510008540	S.ELE EEE1CA100SR	T	49/28.5
C42	4030019990	S.CER C1005 JB 1C 104K-T	T	49.5/18.6
C43	4030013880	S.CER C1005 JB 1H 222K-T	T	49.5/17.7
C45	4030019990	S.CER C1005 JB 1C 104K-T	T	42.6/18.1
C46	4030019990	S.CER C1005 JB 1C 104K-T	T	53.7/20.9
C47	4030013880	S.CER C1005 JB 1H 222K-T	T	53.3/22.3
C48	4030013880	S.CER C1005 JB 1H 222K-T	T	42.9/23.6
C49	4030019990	S.CER C1005 JB 1C 104K-T	T	42.9/22.3
C101	4030009750	S.CER C1005 CH 1H 120J-T	T	22.1/47.3
C102	4030009750	S.CER C1005 CH 1H 120J-T	T	20.5/47.3
C103	4030011670	S.CER C1005 CH 1H 2R5B-T	T	28.5/40.6

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C104	4030009710	S.CER C1005 CH 1H 070C-T	T	29.9/40.9
C105	4030011660	S.CER C1005 CH 1H 020B-T	T	29.9/40
C106	4030013880	S.CER C1005 JB 1H 222K-T	T	31.2/37.5
C107	4030013880	S.CER C1005 JB 1H 222K-T	T	33.6/41
C108	4030009770	S.CER C1005 CH 1H 220J-T	T	32.1/42.5
C110	4030019990	S.CER C1005 JB 1C 104K-T	T	33.7/35.7
C111	4030013880	S.CER C1005 JB 1H 222K-T	T	34/43.9
C113	4030019740	S.CER C1005 JB 1H 102K-T	T	59.3/46
C114	4030009770	S.CER C1005 CH 1H 220J-T	T	32.4/41.3
C121	4030011670	S.CER C1005 CH 1H 2R5B-T	T	40.3/44.3
C122	4030009720	S.CER C1005 CH 1H 080C-T	T	42/44.3
C123	4030011690	S.CER C1005 CH 1H 3R5B-T	T	41.2/34.7
C124	4030011660	S.CER C1005 CH 1H 020B-T	T	47.1/45.2
C125	4030009720	S.CER C1005 CH 1H 080C-T	T	48.8/45.2
C126	4030019740	S.CER C1005 JB 1H 102K-T	T	48.8/44.3
C127	4030011690	S.CER C1005 CH 1H 3R5B-T	T	50.5/44.3
C128	4030011630	S.CER C1005 CH 1H 0R5B-T	T	52.2/44.3
C129	4030011680	S.CER C1005 CH 1H 030B-T	T	53.9/45.2
C130	4030009720	S.CER C1005 CH 1H 080C-T	T	52.2/45.2
C132	4030019650	S.CER C1005 CH 1H 050B-T	T	59.1/43
C133	4030013880	S.CER C1005 JB 1H 222K-T	T	61.4/45.2
C136	4030019740	S.CER C1005 JB 1H 102K-T	T	32/43.7
C137	4030019740	S.CER C1005 JB 1H 102K-T	T	35.5/46.9
C138	4030017490	S.CER C1608 JB 1A 105K-T	T	36.6/46.7
C139	4030019740	S.CER C1005 JB 1H 102K-T	T	50.9/47.3
C141	4030010090	S.CER C1005 CH 1H 560J-T	T	65.2/41.2
C143	4030019990	S.CER C1005 JB 1C 104K-T	T	63.3/43.9
C144	4030019740	S.CER C1005 JB 1H 102K-T	T	63.3/44.8
C145	4030009770	S.CER C1005 CH 1H 220J-T	T	63.3/45.7
C146	4030019810	S.CER C1005 JB 1E 103K-T	T	58.3/44.6
C151	4030019740	S.CER C1005 JB 1H 102K-T	T	65.2/43.9
C153	4030011680	S.CER C1005 CH 1H 030B-T	T	75.8/44.8
C156	4030019740	S.CER C1005 JB 1H 102K-T	T	86.7/43.7
C157	4030019810	S.CER C1005 JB 1E 103K-T	T	88.1/41
C158	4030019740	S.CER C1005 JB 1H 102K-T	T	86.8/40.6
C159	4030019810	S.CER C1005 JB 1E 103K-T	T	90.1/39.7
C161	4030019740	S.CER C1005 JB 1H 102K-T	T	63.6/34.9
C163	4030009760	S.CER C1005 CH 1H 150J-T	T	60.5/37.8
C171	4030009770	S.CER C1005 CH 1H 220J-T	T	91.7/24.3
C172	4030010370	S.CER C1005 CH 1H 300J-T	T	90.8/24.3
C173	4030019990	S.CER C1005 JB 1C 104K-T	T	92.9/24.3
C174	4030019990	S.CER C1005 JB 1C 104K-T	T	95.3/24.3
C175	4030019990	S.CER C1005 JB 1C 104K-T	T	96.2/24.3
C176	4030011320	S.CER C1005 CH 1H 470J-T	T	97.5/24.7
C177	4030009800	S.CER C1005 JB 1H 471K-T	T	94.1/34.7
C181	4030019740	S.CER C1005 JB 1H 102K-T	T	98.4/31.8
C182	4030019740	S.CER C1005 JB 1H 102K-T	T	102.2/32.3
C183	4030017490	S.CER C1608 JB 1A 105K-T	T	101.1/31.1
C184	4030010280	S.CER C1005 CH 1H 390J-T	T	100.2/29.3
C185	4030019990	S.CER C1005 JB 1C 104K-T	T	93.2/34.7
C186	4030019810	S.CER C1005 JB 1E 103K-T	T	92.3/34.7
C187	4030019990	S.CER C1005 JB 1C 104K-T	T	91.4/34.7
C188	4550006250	S.TAN TEESVA 1A 106M8R	T	89.8/33.6
C201	4030009750	S.CER C1005 CH 1H 120J-T	T	11.4/48.8
C202	4030009740	S.CER C1005 CH 1H 100C-T	T	10.5/48.8
C203	4030011670	S.CER C1005 CH 1H 2R5B-T	T	17.6/42.2
C204	4030009710	S.CER C1005 CH 1H 070C-T	T	18.5/42.2
C205	4030011660	S.CER C1005 CH 1H 020B-T	T	15.3/39.1
C206	4030013880	S.CER C1005 JB 1H 222K-T	T	11.1/36.8
C207	4030013880	S.CER C1005 JB 1H 222K-T	T	13.4/34.7
C210	4030019990	S.CER C1005 JB 1C 104K-T	T	9.9/36.5
C211	4030013880	S.CER C1005 JB 1H 222K-T	T	10.8/32.2
C213	4030019740	S.CER C1005 JB 1H 102K-T	T	14.6/30.4
C214	4030019740	S.CER C1005 JB 1H 102K-T	T	12/36.8
C221	4030011670	S.CER C1005 CH 1H 2R5B-T	T	10.7/28.6
C222	4030009720	S.CER C1005 CH 1H 080C-T	T	10.7/26.9
C223	4030011690	S.CER C1005 CH 1H 3R5B-T	T	1/28
C224	4030011650	S.CER C1005 CH 1H 1R5B-T	T	11.7/21.6
C225	4030009720	S.CER C1005 CH 1H 080C-T	T	12.2/20.3
C226	4030019740	S.CER C1005 JB 1H 102K-T	T	10.8/19.9
C227	4030011690	S.CER C1005 CH 1H 3R5B-T	T	10.8/18.2
C228	4030011630	S.CER C1005 CH 1H 0R5B-T	T	10.8/16.5
C229	4030011680	S.CER C1005 CH 1H 030B-T	T	11.8/14.9
C230	4030009720	S.CER C1005 CH 1H 080C-T	T	11.8/16.6
C232	4030019650	S.CER C1005 CH 1H 050B-T	T	10.6/9.8
C233	4030013880	S.CER C1005 JB 1H 222K-T	T	13.9/7.7
C236	4030019740	S.CER C1005 JB 1H 102K-T	T	18/40.9
C237	4030019740	S.CER C1005 JB 1H 102K-T	T	13.1/24.5
C238	4030017490	S.CER C1608 JB 1A 105K-T	T	18/32.4
C239	4030019740	S.CER C1005 JB 1H 102K-T	T	13.6/19.8
C241	4030010090	S.CER C1005 CH 1H 560J-T	T	9.3/3.4
C242	4030011700	S.CER C1005 CH 1H 040B-T	T	10.2/3.4
C243	4030019990	S.CER C1005 JB 1C 104K-T	T	12.1/5.9
C244	4030019740	S.CER C1005 JB 1H 102K-T	T	12.1/6.8
C245	4030009770	S.CER C1005 CH 1H 220J-T	T	12.1/7.7
C246	4030019810	S.CER C1005 JB 1E 103K-T	T	12.6/11.3
C251	4030019740	S.CER C1005 JB 1H 102K-T	T	12.4/2.9
C253	4030009840	S.CER C1005 CH 1H 060C-T	T	23.6/2.5
C256	4030019740	S.CER C1005 JB 1H 102K-T	T	34.6/5.2
C257	4030019810	S.CER C1005 JB 1E 103K-T	T	36.5/1.7
C258	4030019740	S.CER C1005 JB 1H 102K-T	T	39.5/2.1
C259	4030019810	S.CER C1005 JB 1E 103K-T	T	39.5/3.9
C261	4030019740	S.CER C1005 JB 1H 102K-T	T	21.1/5.1
C263	4030009750	S.CER C1005 CH 1H 120J-T	T	17.6/4.7
C271	4030009770	S.CER C1005 CH 1H 220J-T	T	49.8/4
C272	4030010370	S.CER C1005 CH 1H 300J-T	T	49.8/3
C273	4030019990	S.CER C1005 JB 1C 104K-T	T	49.8/5.4
C274	4030019990	S.CER C1005 JB 1C 104K-T	T	49.8/7.9
C275	4030019990	S.CER C1005 JB 1C 104K-T	T	50.4/9.6
C276	4030011320	S.CER C1005 CH 1H 470J-T	T	49.4/9.6
C277	4030009800	S.CER C1005 JB 1H 471K-T	T	39.5/6.6
C281	4030019740	S.CER C1005 JB 1H 102K-T	T	39.9/13.6
C282	4030019740	S.CER C1005 JB 1H 102K-T	T	38.9/13.6
C283	4030017490	S.CER C1608 JB 1A 105K-T	T	38.8/11.4
C284	4030010280	S.CER C1005 CH 1H 390J-T	T	40/8.2

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C285	4030019990	S.CER C1005 JB 1C 104K-T	T	39.5/5.7
C286	4030019810	S.CER C1005 JB 1E 103K-T	T	43.1/2.9
C287	4030019990	S.CER C1005 JB 1C 104K-T	T	43.1/1.9
C288	4550006250	S.TAN TEESVA 1A 106M8R	T	36.6/9.2
C301	4030019920	S.CER C1005 JB 1A 683K-T	T	52.2/18.2
C302	4550005980	S.TAN TEESVA 1A 475M8R	T	53.2/16.4
C303	4030019990	S.CER C1005 JB 1C 104K-T	T	55.9/18.3
C304	4030019740	S.CER C1005 JB 1H 102K-T	T	70.5/23.7
C305	4550000530	S.TAN TEESVA 1V 104M8R	T	70.6/21.9
C311	4030011640	S.CER C1005 CH 1H 010B-T	T	79.9/28
C312	4030009830	S.CER C1005 CH 1H 180J-T	T	80/29.2
C313	4030009830	S.CER C1005 CH 1H 180J-T	T	79.1/29.2
C314	4030009750	S.CER C1005 CH 1H 120J-T	T	82.1/28
C315	4030009750	S.CER C1005 CH 1H 120J-T	T	81.2/28
C316	4030011720	S.CER C1005 CH 1H R75B-T	T	77/32
C317	4030019990	S.CER C1005 JB 1C 104K-T	T	79.4/30.5
C318	4030019740	S.CER C1005 JB 1H 102K-T	T	79.4/31.4
C319	4550006250	S.TAN TEESVA 1A 106M8R	T	82.1/36.7
C320	4030017490	S.CER C1608 JB 1A 105K-T	T	78.1/36.1
C321	4030019740	S.CER C1005 JB 1H 102K-T	T	76.3/35.6
C323	4030011670	S.CER C1005 CH 1H 2R5B-T	T	76/26.8
C324	4030013880	S.CER C1005 JB 1H 222K-T	T	75.9/23
C331	4030009750	S.CER C1005 CH 1H 120J-T	T	74/33.9
C332	4030009760	S.CER C1005 CH 1H 150J-T	T	68.3/36.4
C333	4030019740	S.CER C1005 JB 1H 102K-T	T	71.8/37.5
C336	4030019650	S.CER C1005 CH 1H 050B-T	T	73.5/32.5
C337	4030009770	S.CER C1005 CH 1H 220J-T	T	69.9/29
C338	4030019740	S.CER C1005 JB 1H 102K-T	T	69.2/31.5
C339	4030019740	S.CER C1005 JB 1H 102K-T	T	69.2/33.5
C341	4030009780	S.CER C1005 CH 1H 270J-T	T	57.2/22.3
C342	4030009780	S.CER C1005 CH 1H 270J-T	T	56.1/22.3
C343	4030019740	S.CER C1005 JB 1H 102K-T	T	54.6/23.6
C351	4030019920	S.CER C1005 JB 1A 683K-T	T	41.8/19.7
C352	4550005980	S.TAN TEESVA 1A 475M8R	T	39/22.5
C353	4030019990	S.CER C1005 JB 1C 104K-T	T	39.9/19.7
C354	4030019740	S.CER C1005 JB 1H 102K-T	T	31.9/23.2
C355	4550000530	S.TAN TEESVA 1V 104M8R	T	30.8/25.1
C361	4030011650	S.CER C1005 CH 1H 1R5B-T	T	28/13.6
C362	4030009830	S.CER C1005 CH 1H 180J-T	T	28/14.5
C363	4030009830	S.CER C1005 CH 1H 180J-T	T	28/15.4
C364	4030009750	S.CER C1005 CH 1H 120J-T	T	25.9/13.9
C365	4030009750	S.CER C1005 CH 1H 120J-T	T	26.8/13.9
C366	4030011720	S.CER C1005 CH 1H R75B-T	T	24.4/16.9
C367	4030019990	S.CER C1005 JB 1C 104K-T	T	24.1/13.9
C368	4030019740	S.CER C1005 JB 1H 102K-T	T	25/13.9
C369	4550006250	S.TAN TEESVA 1A 106M8R	T	29/10.3
C370	4030017490	S.CER C1608 JB 1A 105K-T	T	22.2/10.8
C371	4030019740	S.CER C1005 JB 1H 102K-T	T	22/18.7
C373	4030011670	S.CER C1005 CH 1H 2R5B-T	T	27.7/17.8
C374	4030013880	S.CER C1005 JB 1H 222K-T	T	32.2/18.9
C377	4030009770	S.CER C1005 CH 1H 220J-T	T	22/25.2
C381	4030009750	S.CER C1005 CH 1H 120J-T	T	19.4/17.6
C382	4030009750	S.CER C1005 CH 1H 120J-T	T	19.4/12.2
C383	4030019740	S.CER C1005 JB 1H 102K-T	T	17.9/16.1
C386	4030019650	S.CER C1005 CH 1H 050B-T	T	19.4/19.7
C388	4030019740	S.CER C1005 JB 1H 102K-T	T	22/22.7
C389	4030019740	S.CER C1005 JB 1H 102K-T	T	17.1/12.4
C391	4030009780	S.CER C1005 CH 1H 270J-T	T	39.9/25.8
C392	4030009780	S.CER C1005 CH 1H 270J-T	T	41.4/25.8
C393	4030019740	S.CER C1005 JB 1H 102K-T	T	42.9/24.5
C401	4030019920	S.CER C1005 JB 1A 683K-T	T	115/32.3
C402	4550005980	S.TAN TEESVA 1A 475M8R	T	117.7/33.7
C403	4030019990	S.CER C1005 JB 1C 104K-T	T	114.2/33.3
C404	4030019740	S.CER C1005 JB 1H 102K-T	T	110.5/37.9
C405	4550000530	S.TAN TEESVA 1V 104M8R	T	112.4/39.2
C412	4030019650	S.CER C1005 CH 1H 050B-T	T	102.4/42.1
C414	4030019650	S.CER C1005 CH 1H 050B-T	T	101.3/43
C416	4030011630	S.CER C1005 CH 1H 0R5B-T	T	104.2/45.4
C417	4030019990	S.CER C1005 JB 1C 104K-T	T	101.3/43.9
C418	4030019740	S.CER C1005 JB 1H 102K-T	T	101.3/44.8
C419	4550007090	S.TAN TEESVA 1A 226M8R	T	97.8/41
C420	4030017490	S.CER C1608 JB 1A 105K-T	T	98.5/47.7
C421	4030009800	S.CER C1005 JB 1H 471K-T	T	106.2/47.9
C423	4030011630	S.CER C1005 CH 1H 0R5B-T	T	106.4/41.9
C424	4030011630	S.CER C1005 CH 1H 0R5B-T	T	105.2/42.1
C431	4030009750	S.CER C1005 CH 1H 120J-T	T	104.7/50.5
C432	4030009800	S.CER C1005 JB 1H 471K-T	T	102.3/52
C433	4030009720	S.CER C1005 CH 1H 080C-T	T	99.2/50.8
C434	4030019740	S.CER C1005 JB 1H 102K-T	T	93.1/52.9
C436	4030019650	S.CER C1005 CH 1H 050B-T	T	105.6/51.4
C437	4030009720	S.CER C1005 CH 1H 080C-T	T	112.4/49.6
C438	4030009800	S.CER C1005 JB 1H 471K-T	T	109.4/48.9
C439	4030019740	S.CER C1005 JB 1H 102K-T	T	97.4/49.6
C440	4030019740	S.CER C1005 JB 1H 102K-T	T	85.4/49
C441	4030009740	S.CER C1005 CH 1H 100C-T	T	121.3/20.5
C442	4030009740	S.CER C1005 CH 1H 100C-T	T	121.3/19.6
C443	4030019740	S.CER C1005 JB 1H 102K-T	T	121.3/17.6
C451	4030019740	S.CER C1005 JB 1H 102K-T	T	89/49.8
C452	4030019740	S.CER C1005 JB 1H 102K-T	T	90.5/57.5
C453	4030019740	S.CER C1005 JB 1H 102K-T	T	90/49.8
C454	4030019740	S.CER C1005 JB 1H 102K-T	T	89.3/57.9
C456	4030019740	S.CER C1005 JB 1H 102K-T	T	87.8/57.8
C457	4030019740	S.CER C1005 JB 1H 102K-T	T	85.5/62.3
C458	4030019740	S.CER C1005 JB 1H 102K-T	T	83.8/55.1
C459	4030019740	S.CER C1005 JB 1H 102K-T	T	79.5/59.7
C461	4030009740	S.CER C1005 CH 1H 100C-T	T	83.5/58.1
C462	4030019740	S.CER C1005 JB 1H 102K-T	T	80.5/59.7
C463	4030009720	S.CER C1005 CH 1H 080C-T	T	77.2/58.7
C464	4030009830	S.CER C1005 CH 1H 180J-T	T	76.3/61.7
C465	4030009770	S.CER C1005 CH 1H 220J-T	T	75.3/61.7
C471	4030009830	S.CER C1005 CH 1H 180J-T	T	51/60.7
C472	4030009770	S.CER C1005 CH 1H 220J-T	T	51/58.5
C474	4030011320	S.CER C1005 CH 1H 470J-T	T	48.5/56.4
C476	4030011320	S.CER C1005 CH 1H 470J-T	T	43.1/61.6
C478	4030019740	S.CER C1005 JB 1H 102K-T	T	44.4/51.7

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
C481	4030009760	S.CER	C1005 CH 1H 150J-T	T	63.9/60.2
C482	4030019810	S.CER	C1005 JB 1E 103K-T	T	60.7/54.8
C483	4030019740	S.CER	C1005 JB 1H 102K-T	T	56.2/55.7
C484	4030011320	S.CER	C1005 CH 1H 470J-T	T	50.4/56.4
C485	4030011320	S.CER	C1005 CH 1H 470J-T	T	40.3/56.8
C486	4550000460	S.TAN	TEESVA 1C 105M8R	T	67.6/54.6
C487	4030019990	S.CER	C1005 JB 1C 104K-T	T	75.7/52.6
C488	4030019740	S.CER	C1005 JB 1H 102K-T	T	78/53.6
C491	4030009770	S.CER	C1005 CH 1H 220J-T	T	60.6/60.8
C492	4030009800	S.CER	C1005 JB 1H 471K-T	T	60.6/59.8
C493	4030019740	S.CER	C1005 JB 1H 102K-T	T	60.6/58.8
C494	4030009760	S.CER	C1005 CH 1H 150J-T	T	56.8/60.7
C495	4030009760	S.CER	C1005 CH 1H 150J-T	T	56.8/59.8
C496	4550007650	S.TAN	F931V105MAABMA	T	57.2/58.2
C511	4030019810	S.CER	C1005 JB 1E 103K-T	T	106.5/10.9
C512	4030019740	S.CER	C1005 JB 1H 102K-T	T	98.3/14.2
C513	4030019740	S.CER	C1005 JB 1H 102K-T	T	103.4/15.8
C515	4030019990	S.CER	C1005 JB 1C 104K-T	T	103.2/18.1
C516	4550006250	S.TAN	TEESVA 1A 106M8R	T	100.9/24.8
C521	4030019740	S.CER	C1005 JB 1H 102K-T	T	104.1/14.7
C522	4550007090	S.TAN	TEESVA 1A 226M8R	T	118/10.4
C523	4030019990	S.CER	C1005 JB 1C 104K-T	T	104.1/13.8
C531	4030019740	S.CER	C1005 JB 1H 102K-T	T	119.7/16.3
C532	4030019740	S.CER	C1005 JB 1H 102K-T	T	119.7/20.5
C533	4030019740	S.CER	C1005 JB 1H 102K-T	T	119.7/21.4
C534	4030019990	S.CER	C1005 JB 1C 104K-T	T	120.2/23.7
C536	4550006250	S.TAN	TEESVA 1A 106M8R	T	121.3/26.2
C537	4030019990	S.CER	C1005 JB 1C 104K-T	T	119.7/19.6
C538	4550006250	S.TAN	TEESVA 1A 106M8R	T	121.8/12.8
C541	4030019990	S.CER	C1005 JB 1C 104K-T	T	115.3/28.3
C543	4550006250	S.TAN	TEESVA 1A 106M8R	T	118.4/28.9
C551	4030009770	S.CER	C1005 CH 1H 220J-T	T	112/29.6
C553	4030017490	S.CER	C1608 JB 1A 105K-T	T	110.6/33.1
C556	4030009770	S.CER	C1005 CH 1H 220J-T	T	110.2/29.6
C558	4030017490	S.CER	C1608 JB 1A 105K-T	T	107.6/33.1
C562	4030019990	S.CER	C1005 JB 1C 104K-T	T	103.1/21.1
C564	4550006250	S.TAN	TEESVA 1A 106M8R	T	103/27.8
C565	4030019990	S.CER	C1005 JB 1C 104K-T	T	103.1/22
C567	4030019990	S.CER	C1005 JB 1C 104K-T	T	103.1/23.8
C601	4030019990	S.CER	C1005 JB 1C 104K-T	T	95.5/60.5
C602	4030019740	S.CER	C1005 JB 1H 102K-T	T	95.5/61.4
C603	4030010250	S.CER	C1005 CH 1H 101J-T	T	95.5/62.3
C611	4510008120	S.ELE	16 CE 100 BS	T	63.3/12.2
C612	4030019990	S.CER	C1005 JB 1C 104K-T	T	69.8/8.5
C613	4030019740	S.CER	C1005 JB 1H 102K-T	T	69.8/9.4
C614	4510008540	S.ELE	EEE1CA100SR	T	69.7/15.2
C615	4030019810	S.CER	C1005 JB 1E 103K-T	T	73.6/11.5
C616	4030019990	S.CER	C1005 JB 1C 104K-T	T	72.6/13.5
C617	4510009010	S.ELE	EEE1AA221P	T	81.3/8.1
C618	4030019990	S.CER	C1005 JB 1C 104K-T	T	72.6/17.2
C619	4030013880	S.CER	C1005 JB 1H 222K-T	T	72.6/15.6
C621	4030019740	S.CER	C1005 JB 1H 102K-T	T	97.1/8.3
C622	4030019740	S.CER	C1005 JB 1H 102K-T	T	95.7/3.3
C623	4030011320	S.CER	C1005 CH 1H 470J-T	T	97.4/9.2
C624	4030019740	S.CER	C1005 JB 1H 102K-T	T	94.8/2.6
C625	4030011320	S.CER	C1005 CH 1H 470J-T	T	100.8/8.6
C626	4030019740	S.CER	C1005 JB 1H 102K-T	T	99.5/1.8
C627	4030019740	S.CER	C1005 JB 1H 102K-T	T	100.8/9.6
C629	4030019740	S.CER	C1005 JB 1H 102K-T	T	106.5/9
C630	4030019740	S.CER	C1005 JB 1H 102K-T	T	101.2/1.8
C631	4030019740	S.CER	C1005 JB 1H 102K-T	T	102.4/8.6
C632	4030019740	S.CER	C1005 JB 1H 102K-T	T	102.8/1.8
C633	4030019740	S.CER	C1005 JB 1H 102K-T	T	103.2/9.5
C634	4030011320	S.CER	C1005 CH 1H 470J-T	T	104.7/1.8
C635	4030011320	S.CER	C1005 CH 1H 470J-T	T	104.7/9
C636	4030011320	S.CER	C1005 CH 1H 470J-T	T	106.4/1.8
C637	4030019740	S.CER	C1005 JB 1H 102K-T	T	105.6/9
C638	4030019740	S.CER	C1005 JB 1H 102K-T	T	108.1/1.8
C645	4030011320	S.CER	C1005 CH 1H 470J-T	T	109.3/8.6
C646	4030011320	S.CER	C1005 CH 1H 470J-T	T	109.8/1.8
C647	4030011320	S.CER	C1005 CH 1H 470J-T	T	111.2/8.6
C648	4030011320	S.CER	C1005 CH 1H 470J-T	T	111.4/1.8
C649	4030011320	S.CER	C1005 CH 1H 470J-T	T	112.8/8.6
C650	4030011320	S.CER	C1005 CH 1H 470J-T	T	113.1/1.8
C661	4030019740	S.CER	C1005 JB 1H 102K-T	T	67.1/7.6
C662	4030019740	S.CER	C1005 JB 1H 102K-T	T	69.8/7.6
J1	6510021722	S.CON	30FLT-SM2-TB(LF)(SN)(M)	T	105/5
J3	6510019371	S.CON	B3B-ZR-SM4-TF(LF)(SN)	T	69/5
J4	6510027700	CON	IMSA-6065B-02Z097-PT1		
W1	7030012290	JUM	RDS2T0R0		
W2	8900019100	CAB	OPC-2016 (P0.5,N30,L90) <TJM>		
MP1	8510014940	S.CAS	2601 VCO CASE Y641	T	76.4/29.6
MP2	8510014940	S.CAS	2601 VCO CASE Y641	T	24.9/17.4
MP3	8510014940	S.CAS	2601 VCO CASE Y641	T	104.8/45.1

[REG UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
IC1	1180002781	REG	KIA7805API-U/PF		
IC2	1180003150	REG	KIA7808API-U/PF		
IC101	1120002830	S.IC	NJM2125F-TE1-#FZZB	T	46.4/4.7
IC201	1120003060	S.IC	ADM4853ARZ-REEL7 <FE>	T	26.5/42.4
IC202	1120003060	S.IC	ADM4853ARZ-REEL7 <FE>	T	32.3/42.4
IC203	1120003060	S.IC	ADM4853ARZ-REEL7 <FE>	T	38.1/42.4
IC204	1190003090	S.IC	PC400J00000F	T	37.7/25.3
IC205	1190003090	S.IC	PC400J00000F	T	42.1/25.3
IC206	1190003090	S.IC	PC400J00000F	T	46.6/25.3
IC211	1120002252	S.IC	TC74ACT32F(F)	T	29.3/30.8
IC212	1130005291	S.IC	TC74HC14AF(EL,F)	T	29.3/18
Q1	1590003560	S.FET	TPC6104 (TE85L,F)	T	13.5/31.4
Q2	1590003680	S.TRA	KRC402 RTK/P	T	14.3/35.5
Q101	1530003900	S.TRA	KTC4075 BL-RTK/P	T	36.9/4.9
Q102	1530003900	S.TRA	KTC4075 BL-RTK/P	T	42.4/7.5
Q201	1510001090	S.TRA	KTA2015Y-RTK/P	T	38/32.6
Q202	1510001090	S.TRA	KTA2015Y-RTK/P	T	42.8/32.6
Q203	1510001090	S.TRA	KTA2015Y-RTK/P	T	47.7/32.6
Q251	1530003900	S.TRA	KTC4075 BL-RTK/P	T	19.3/27
D1	1790000700	DIO	DSA3A1		
D201	1750001180	S.DIO	KDS122 RTK/P	T	36.5/35.4
D202	1750001320	S.DIO	KDS4148U RTK/P	T	37.5/30.4
D203	1750001180	S.DIO	KDS122 RTK/P	T	40.8/35.4
D204	1750001320	S.DIO	KDS4148U RTK/P	T	41.9/30.4
D205	1750001180	S.DIO	KDS122 RTK/P	T	44.8/35.4
D206	1750001320	S.DIO	KDS4148U RTK/P	T	46.7/30.4
D251	1790001251	S.DIO	MA2S1110GL	T	16.8/28.1
R1	7030005240	S.RES	ERJ2GEJ 473 X (47K)	T	12.7/33.7
R2	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	14.4/33.7
R3	7030010410	S.RES	ERJ1TYJ 220U (22)	T	6.8/35.7
R11	7030010610	S.RES	ERJ1TYJ 470U (47)	T	17.5/20.4
R101	7030008290	S.RES	ERJ2GEJ 183 X (18K)	T	31/4
R102	7030005170	S.RES	ERJ2GEJ 474 X (470K)	T	34.8/6.3
R103	7030008300	S.RES	ERJ2GEJ 184 X (180K)	T	36.9/2.7
R104	7030007340	S.RES	ERJ2GEJ 153 X (15K)	T	34.4/4
R105	7030009280	S.RES	ERJ2GEJ 391 X	T	35.9/2.7
R106	7030009140	S.RES	ERJ2GEJ 272 X (2.7K)	T	36.2/6.8
R107	7030005060	S.RES	ERJ2GEJ 333 X (33K)	T	38.3/6.8
R108	7030005060	S.RES	ERJ2GEJ 333 X (33K)	T	40/7.9
R109	7030005120	S.RES	ERJ2GEJ 102 X (1K)	T	44.1/8.9
R110	7030007290	S.RES	ERJ2GEJ 222 X (2.2K)	T	41.5/4.4
R111	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	42.7/9.3
R112	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	42.4/4.4
R113	7030005120	S.RES	ERJ2GEJ 102 X (1K)	T	43.6/5.7
R114	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	44.7/2.5
R115	7030005090	S.RES	ERJ2GEJ 104 X (100K)	T	46.4/2.5
R116	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	46.4/1.6
R117	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	46.4/6.9
R118	7030004990	S.RES	ERJ2GEJ 221 X (220)	T	49.1/3.8
R119	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	49.8/5.3
R201	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	26.1/48
R202	7030005240	S.RES	ERJ2GEJ 473 X (47K)	T	26.5/46.7
R203	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	27/48
R206	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	31.8/48
R207	7030005240	S.RES	ERJ2GEJ 473 X (47K)	T	32.3/46.7
R208	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	32.7/48
R211	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	37.6/48
R212	7030005240	S.RES	ERJ2GEJ 473 X (47K)	T	38.1/46.7
R213	7030004970	S.RES	ERJ2GEJ 470 X (47)	T	38.5/48
R221	7030007270	S.RES	ERJ2GEJ 151 X (150)	T	38.3/34.7
R222	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	36.1/33
R223	7030005000	S.RES	ERJ2GEJ 471 X (470)	T	38.5/19.6
R226	7030009140	S.RES	ERJ2GEJ 272 X (2.7K)	T	22.7/8.1
R227	7030009290	S.RES	ERJ2GEJ 562 X (5.6K)	T	22.2/6.8
R231	7030007270	S.RES	ERJ2GEJ 151 X (150)	T	42.6/34.7
R232	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	40.5/33.4
R233	7030005000	S.RES	ERJ2GEJ 471 X (470)	T	42.9/19.6
R236	7030009140	S.RES	ERJ2GEJ 272 X (2.7K)	T	20.6/8.1
R237	7030009290	S.RES	ERJ2GEJ 562 X (5.6K)	T	20.1/6.8
R241	7030007270	S.RES	ERJ2GEJ 151 X (150)	T	46.6/34.7
R242	7030005050	S.RES	ERJ2GEJ 103 X (10K)	T	45.7/33
R243	7030005000	S.RES	ERJ2GEJ 471 X (470)	T	47.4/19.6
R246	7030009140	S.RES	ERJ2GEJ 272 X (2.7K)	T	21.4/10
R247	7030009290	S.RES	ERJ2GEJ 562 X (5.6K)	T	20.2/9.6
R251	7030005220	S.RES	ERJ2GEJ 223 X (22K)	T	17.5/26.4
C1	4510004601	ELE	16 ME 1000 HC		
C2	4030009770	S.CER	C1005 CH 1H 220J-T	T	66.7/43.3
C3	4030010250	S.CER	C1005 CH 1H 101J-T	T	67.7/43.3
C4	4030019740	S.CER	C1005 JB 1H 102K-T	T	68.7/43.3
C5	4030019990	S.CER	C1005 JB 1C 104K-T	T	69.7/43.3
C10	4030019740	S.CER	C1005 JB 1H 102K-T	T	12.3/35.2
C12	4030009770	S.CER	C1005 CH 1H 220J-T	T	17.6/58.2
C13	4030010250	S.CER	C1005 CH 1H 101J-T	T	17.6/57.3
C14	4030019740	S.CER	C1005 JB 1H 102K-T	T	17.6/56.4
C15	4030019990	S.CER	C1005 JB 1C 104K-T	T	17.6/55.5
C21	4030019810	S.CER	C1005 JB 1E 103K-T	T	5.9/40.8
C22	4030019990	S.CER	C1005 JB 1C 104K-T	T	6.9/40.8
C23	4510008120	S.ELE	16 CE 100 BS	T	11.8/43
C26	4030019810	S.CER	C1005 JB 1E 103K-T	T	5.9/43.2
C27	4030019990	S.CER	C1005 JB 1C 104K-T	T	6.9/43.2
C28	4510008120	S.ELE	16 CE 100 BS	T	5/51
C31	4030019810	S.CER	C1005 JB 1E 103K-T	T	5.9/26.8
C32	4030019990	S.CER	C1005 JB 1C 104K-T	T	6.9/26.8
C33	4510008120	S.ELE	16 CE 100 BS	T	4.5/18.6
C34	4030019810	S.CER	C1005 JB 1E 103K-T	T	5.9/29.7
C35	4030019990	S.CER	C1005 JB 1C 104K-T	T	6.9/29.7
C36	4510008120	S.ELE	16 CE 100 BS	T	11.7/23.7

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[REG UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
C101	4030019990	S.CER	C1005 JB 1C 104K-T	T	31.4/2.6
C102	4030019860	S.CER	C1005 JB 1E 223K-T	T	32.7/4
C103	4030019860	S.CER	C1005 JB 1E 223K-T	T	34.4/4.9
C104	4030013880	S.CER	C1005 JB 1H 222K-T	T	40/6.8
C105	4030019720	S.CER	C1005 JB 1H 561K-T	T	40/5.8
C106	4030019990	S.CER	C1005 JB 1C 104K-T	T	41.9/5.7
C107	4510008540	S.ELE	EEE1CA100SR	T	36.5/9.8
C111	4030017490	S.CER	C1608 JB 1A 105K-T	T	42.3/2.8
C112	4030017490	S.CER	C1608 JB 1A 105K-T	T	51/4.8
C115	4030019810	S.CER	C1005 JB 1E 103K-T	T	48.8/5.3
C116	4510008540	S.ELE	EEE1CA100SR	T	47.8/9.8
C224	4030019810	S.CER	C1005 JB 1E 103K-T	T	38.5/20.5
C226	4030019740	S.CER	C1005 JB 1H 102K-T	T	23.1/6.8
C234	4030019810	S.CER	C1005 JB 1E 103K-T	T	42.9/20.5
C236	4030019740	S.CER	C1005 JB 1H 102K-T	T	21/6.8
C244	4030019810	S.CER	C1005 JB 1E 103K-T	T	47.4/20.5
C246	4030019740	S.CER	C1005 JB 1H 102K-T	T	20.2/10.5
C251	4030019990	S.CER	C1005 JB 1C 104K-T	T	25.1/36.7
C252	4030018910	S.CER	C1608 JB 0J 475K-T	T	25/37.8
C253	4030019990	S.CER	C1005 JB 1C 104K-T	T	23.3/20.6
C261	4030011320	S.CER	C1005 CH 1H 470J-T	T	47.1/50.8
C262	4030011320	S.CER	C1005 CH 1H 470J-T	T	46.6/59.7
C263	4030011320	S.CER	C1005 CH 1H 470J-T	T	46.1/50.8
C264	4030011320	S.CER	C1005 CH 1H 470J-T	T	45.6/59.7
C265	4030011320	S.CER	C1005 CH 1H 470J-T	T	45.1/50.8
C266	4030011320	S.CER	C1005 CH 1H 470J-T	T	44.6/59.7
C267	4030011320	S.CER	C1005 CH 1H 470J-T	T	44.1/50.8
C268	4030011320	S.CER	C1005 CH 1H 470J-T	T	43.6/59.7
C269	4030011320	S.CER	C1005 CH 1H 470J-T	T	43.1/50.8
C270	4030011320	S.CER	C1005 CH 1H 470J-T	T	42.6/59.7
C271	4030011320	S.CER	C1005 CH 1H 470J-T	T	42.1/50.8
C273	4030011320	S.CER	C1005 CH 1H 470J-T	T	41.1/50.8
C274	4030019740	S.CER	C1005 JB 1H 102K-T	T	40.6/59.7
C276	4030019740	S.CER	C1005 JB 1H 102K-T	T	39.6/59.7
C277	4030019740	S.CER	C1005 JB 1H 102K-T	T	16/26.4
C278	4030019740	S.CER	C1005 JB 1H 102K-T	T	23.7/51.5
C279	4030019740	S.CER	C1005 JB 1H 102K-T	T	22.5/50.8
C281	4030019740	S.CER	C1005 JB 1H 102K-T	T	9.8/15.2
C282	4030019740	S.CER	C1005 JB 1H 102K-T	T	10.3/6.8
C283	4030019740	S.CER	C1005 JB 1H 102K-T	T	10.8/15.2
C284	4030019740	S.CER	C1005 JB 1H 102K-T	T	11.3/6.8
C287	4030019740	S.CER	C1005 JB 1H 102K-T	T	12.8/15.2
C288	4030019740	S.CER	C1005 JB 1H 102K-T	T	13.3/6.8
C289	4030011320	S.CER	C1005 CH 1H 470J-T	T	13.8/15.2
C290	4030011320	S.CER	C1005 CH 1H 470J-T	T	14.2/6.8
C291	4030011320	S.CER	C1005 CH 1H 470J-T	T	14.8/15.2
C292	4030011320	S.CER	C1005 CH 1H 470J-T	T	16.4/6.8
C293	4030011320	S.CER	C1005 CH 1H 470J-T	T	15.8/15.2
C294	4030011320	S.CER	C1005 CH 1H 470J-T	T	17.3/6.8
RL251	6330001620	REL	FTR-F3AA012E		
J1	6510025500	CON	OP-12		
J2	6510025500	CON	OP-12		
J3	6510027580	S.CON	16FLT-SM2-TB(LF)(SN)(M)	T	14.3/11
J4	6510027580	S.CON	16FLT-SM2-TB(LF)(SN)(M)	T	42.6/55.2
J5	6510018961	S.CON	B2B-PH-SM4-TB(LF)(SN)	T	58.1/8.8
W1	8900019130	CAB	OPC-2019 <TJM>		
W2	8900019110	CAB	OPC-2017 (P0.5,N16,L120) <TJM>		
W3	8900019120	CAB	OPC-2018 (P0.5,N16,L50) <TJM>		

[LOGIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
IC1	1140015470	S.IC	R5F61644AN50FPV(DX-3228A)	B	71.5/46.1
IC2	1140009241	S.IC	R1EX24128ASA00A	B	87.8/36.1
IC3	1130014520	S.IC	CS16LV20493GIR55-REEL <SEI>	B	70.3/18.6
IC4	1110007620	S.IC	NJU7704F3-42A-TE1-#ZZZB	B	32/53.3
IC6	1130003831	S.IC	TC7S04F(TE85R,F)	B	63.9/70.1
IC151	1110006250	S.IC	NJM2360AM-TE1-#ZZZB	B	125/58.8
IC201	1190003090	S.IC	PC400J00000F	B	111.5/33
IC202	1130007421	S.IC	TC7W14FU(TE12L,F)	B	107.7/32.2
IC203	1130009301	S.IC	TC7SET08FU(T5L,JF)	B	116.6/29.9
IC204	1130009301	S.IC	TC7SET08FU(T5L,JF)	B	128/25.4
IC205	1120002921	S.IC	ADM202EARNZ <FE>	B	124.1/30.9
IC251	1130009301	S.IC	TC7SET08FU(T5L,JF)	B	48.2/43.1
IC252	1130007061	S.IC	TC7W02FU(TE12L,F)	B	48.7/47.6
IC301	1180003560	S.REG	BA33BC0FP-E2	B	103.2/15.3
IC302	1110006380	S.IC	LM2904PWR	B	48.4/15.6
Q1	1590003680	S.TRA	KRC402 RTK/P	B	79.8/59.1
Q101	1520000651	S.TRA	2SB1201S-TL-E	B	97.8/29.2
Q102	1530003900	S.TRA	KTC4075 BL-RTK/P	B	100.7/22.6
Q151	1530003900	S.TRA	KTC4075 BL-RTK/P	B	138.2/50
Q152	1510000501	S.TRA	2SA1162-GR(TE85R,F)	B	138.8/45.8
Q153	1590003680	S.TRA	KRC402 RTK/P	B	134/46
Q154	1590003680	S.TRA	KRC402 RTK/P	B	134/48.6
Q155	1510001090	S.TRA	KTA2015Y-RTK/P	B	138.2/52.6
Q156	1590003680	S.TRA	KRC402 RTK/P	B	133.8/51.4
Q251	1510000501	S.TRA	2SA1162-GR(TE85R,F)	B	48.2/53.5
Q252	1530003900	S.TRA	KTC4075 BL-RTK/P	B	51.2/53.5
D101	1730002281	S.ZEN	MAZ8091GML	B	98.5/22.7
D151	1790000671	S.DIO	SB07-03C-TB-E	B	126.4/52.7
D202	1750001320	S.DIO	KDS4148U RTK/P	B	114.5/35.2
D251	1750001320	S.DIO	KDS4148U RTK/P	B	50.2/57.1
X2	6050012350	S.XTA	CR-817 DSB321SC 12.288 MHz	B	66.9/66.7
L151	6200014020	S.COI	ELJEA 221KF	B	129.4/58
R1	7030007570	S.RES	ERJ2GEJ 122 X (1.2K)	B	69.6/64
R2	7030007570	S.RES	ERJ2GEJ 122 X (1.2K)	B	69.6/64.9
R3	7030007570	S.RES	ERJ2GEJ 122 X (1.2K)	B	34.5/65.3
R4	7030008010	S.RES	ERJ2GEJ 123 X (12K)	B	33.6/65.3
R5	7030007570	S.RES	ERJ2GEJ 122 X (1.2K)	B	32.7/65.3
R6	7030008010	S.RES	ERJ2GEJ 123 X (12K)	B	31.8/65.3
R7	7030007570	S.RES	ERJ2GEJ 122 X (1.2K)	B	30.9/65.3
R8	7030008010	S.RES	ERJ2GEJ 123 X (12K)	B	29.9/65.3
R9	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	80.7/56.4
R11	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	86.9/40.6
R12	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	86.9/41.5
R15	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	67.9/29.2
R16	7030010040	S.RES	ERJ2GEJ-JPW	B	61.1/34.1
R17	7030010040	S.RES	ERJ2GEJ-JPW	B	62.8/34.5
R18	7030010040	S.RES	ERJ2GEJ-JPW	B	61.1/35.3
R21	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	82.6/84.7
R22	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	81.1/84.7
R23	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	79.6/84.7
R25	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	76.6/84.7
R26	7030005040	S.RES	ERJ2GEJ 472 X (4.7K)	B	75.1/84.7
R31	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	74.9/71.9
R36	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	33.6/51.5
R37	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	33.6/50.5
R46	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	65.9/27.7
R47	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	66.7/26.4
R48	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	67.5/27.7
R49	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	68.3/26.4
R50	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	69.1/27.7
R53	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	71.5/27.7
R54	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	72.3/26.4
R55	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	73.1/27.7
R56	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	73.9/26.4
R57	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	74.7/27.7
R69	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	73.9/9.6
R70	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	73.1/10.9
R71	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	72.3/9.6
R72	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	71.5/10.9
R75	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	69.1/9.6
R76	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	68.3/10.9
R77	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	67.5/9.6
R78	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	66.7/10.9
R79	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	66.1/8.3
R80	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	65.1/8.3
R81	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	64.1/8.3
R91	7030010040	S.RES	ERJ2GEJ-JPW	B	56.2/59.1
R92	7030005160	S.RES	ERJ2GEJ 105 X (1M)	B	63.2/67.9
R108	7030012350	S.RES	ERJ2GEJ 335 X (3.3M)	B	62.8/73
R109	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	50.6/70.3
R110	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	51.5/70.3
R111	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	52.4/70.3
R112	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	53.3/70.3
R113	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	54.2/70.3
R122	7030005110	S.RES	ERJ2GEJ 224 X (220K)	B	100.9/20.6
R123	7030004990	S.RES	ERJ2GEJ 221 X (220)	B	97/22.1
R131	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	142.7/50.8
R132	7030010040	S.RES	ERJ2GEJ-JPW	B	142.7/49.1
R133	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	113.3/40.3
R134	7030010040	S.RES	ERJ2GEJ-JPW	B	111.6/40.3
R135	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	135.6/30.2
R136	7030010040	S.RES	ERJ2GEJ-JPW	B	135.6/28.5
R137	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	93.4/58.1
R138	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	93.4/59.8
R139	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	93.4/34.4

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[LOGIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
R140	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	93.4/36.1
R141	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	93.3/8.7
R142	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	91.6/8.7
R143	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	9.3/28.3
R144	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	9.3/26.6
R145	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	9.3/52
R146	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	9.3/50.3
R147	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	9.3/75.7
R148	7030005710	S.RES	ERJ2GEJ 121 X (120)	B	9.3/74
R151	7030007280	S.RES	ERJ2GEJ 331 X (330)	B	126.5/63.7
R152	7030011150	S.RES	ERJ2GEJ 2R7 X (2.7)	B	124.8/63.7
R153	7030005700	S.RES	ERJ2GEJ 274 X (270K)	B	120.8/58.8
R154	7030007340	S.RES	ERJ2GEJ 153 X (15K)	B	120.8/60.5
R155	7030007340	S.RES	ERJ2GEJ 153 X (15K)	B	121.7/60.5
R156	7030005220	S.RES	ERJ2GEJ 223 X (22K)	B	121.7/58.8
R157	7030004990	S.RES	ERJ2GEJ 221 X (220)	B	129/51.7
R158	7030005220	S.RES	ERJ2GEJ 223 X (22K)	B	135.9/52
R161	7030005070	S.RES	ERJ2GEJ 683 X (68K)	B	136.1/49.7
R162	7030005230	S.RES	ERJ2GEJ 334 X (330K)	B	136.4/47.3
R163	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	138.1/48.2
R164	7030005070	S.RES	ERJ2GEJ 683 X (68K)	B	136.4/48.2
R206	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	117.3/35.3
R207	7030005530	S.RES	ERJ2GEJ 100 X (10)	B	117.3/36.3
R208	7030005000	S.RES	ERJ2GEJ 471 X (470)	B	110.8/28.3
R209	7030009140	S.RES	ERJ2GEJ 272 X (2.7K)	B	105.5/31.7
R210	7030009290	S.RES	ERJ2GEJ 562 X (5.6K)	B	104.6/33.4
R211	7030005530	S.RES	ERJ2GEJ 100 X (10)	B	126.8/35.3
R216	7030005120	S.RES	ERJ2GEJ 102 X (1K)	B	118/39.1
R251	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	51/46.2
R252	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	47.3/55.7
R253	7030008290	S.RES	ERJ2GEJ 183 X (18K)	B	49/55.7
R254	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	48.7/51.3
R255	7030008290	S.RES	ERJ2GEJ 183 X (18K)	B	50.4/51.3
R256	7030005530	S.RES	ERJ2GEJ 100 X (10)	B	108.6/49.4
R311	7030012260	S.RES	ERJ2RKD 4703X (470K)	B	35/51.9
R312	7030012270	S.RES	ERJ2RKD 1203X (120K)	B	35/53.6
R321	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	84.3/52.8
R322	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	81.6/55.5
R323	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	82.5/54.6
R324	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	60.6/55.7
R325	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	85.6/51.5
R326	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	83.4/53.7
R327	7030008010	S.RES	ERJ2GEJ 123 X (12K)	B	71.2/64
R328	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	59.7/53.9
R329	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	60.6/54.8
R330	7030005240	S.RES	ERJ2GEJ 473 X (47K)	B	57.1/52
R331	7030008010	S.RES	ERJ2GEJ 123 X (12K)	B	71.2/64.9
R351	7030007340	S.RES	ERJ2GEJ 153 X (15K)	B	50.8/14.2
R352	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	50.8/12.5
R353	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	52.6/14.2
R356	7030007340	S.RES	ERJ2GEJ 153 X (15K)	B	50.8/16.9
R357	7030005050	S.RES	ERJ2GEJ 103 X (10K)	B	50.8/18.7
R358	7030005090	S.RES	ERJ2GEJ 104 X (100K)	B	51.7/16.9
R361	7030010040	S.RES	ERJ2GEJ-JPW	B	37.4/18.7
C11	4030019990	S.CER	C1005 JB 1C 104K-T	B	61.5/56.6
C12	4030019990	S.CER	C1005 JB 1C 104K-T	B	65.9/60
C13	4030019990	S.CER	C1005 JB 1C 104K-T	B	57.1/51.1
C14	4030019990	S.CER	C1005 JB 1C 104K-T	B	57.3/41.2
C15	4030019990	S.CER	C1005 JB 1C 104K-T	B	61.7/36.8
C16	4030019990	S.CER	C1005 JB 1C 104K-T	B	79.5/34.1
C17	4030019990	S.CER	C1005 JB 1C 104K-T	B	86.5/50.6
C18	4030019990	S.CER	C1005 JB 1C 104K-T	B	79.8/57.3
C19	4030019990	S.CER	C1005 JB 1C 104K-T	B	91.1/38.3
C31	4030019740	S.CER	C1005 JB 1H 102K-T	B	71.4/76.1
C32	4030019990	S.CER	C1005 JB 1C 104K-T	B	74.9/72.8
C35	4030019920	S.CER	C1005 JB 1A 683K-T	B	31.5/51.5
C39	4030019990	S.CER	C1005 JB 1C 104K-T	B	37.6/74
C41	4030019990	S.CER	C1005 JB 1C 104K-T	B	70.7/9.6
C91	4030019740	S.CER	C1005 JB 1H 102K-T	B	63.2/66.9
C92	4030019740	S.CER	C1005 JB 1H 102K-T	B	66.5/70.1
C93	4030019740	S.CER	C1005 JB 1H 102K-T	B	67.1/64.2
C111	4030019550	S.CER	C1608 JB 1E 334K-T	B	61.6/73.3
C120	4550006480	S.TAN	TEESVA 1C 475M8R	B	58.1/70.6
C121	4550006480	S.TAN	TEESVA 1C 475M8R	B	58.1/68.5
C131	4030019740	S.CER	C1005 JB 1H 102K-T	B	96.1/23.9
C132	4510008540	S.ELE	EEE1CA100SR	B	92.1/25
C133	4030019990	S.CER	C1005 JB 1C 104K-T	B	102.5/22.1
C151	4030013870	S.CER	C1005 JB 1H 681K-T	B	123.6/54.1
C152	4030019740	S.CER	C1005 JB 1H 102K-T	B	121.7/63.3
C153	4510009700	S.ELE	EEEFK1C101P	B	124.3/68.9
C154	4510008940	S.ELE	EEEFC1V470P	B	115.9/55.7
C155	4510009110	S.ELE	EEE1VA220WR	B	133.9/56.6
C156	4030019810	S.CER	C1005 JB 1E 103K-T	B	138.6/54.4
C201	4030011320	S.CER	C1005 CH 1H 470J-T	B	127/48.5
C202	4030011320	S.CER	C1005 CH 1H 470J-T	B	125.5/48.5
C203	4030019740	S.CER	C1005 JB 1H 102K-T	B	124/48.5
C206	4030011320	S.CER	C1005 CH 1H 470J-T	B	119.5/48.4
C207	4030019740	S.CER	C1005 JB 1H 102K-T	B	118/48.4
C211	4030013910	S.CER	C1005 JB 1H 472K-T	B	115.9/35.9
C212	4030019810	S.CER	C1005 JB 1E 103K-T	B	120.3/26.5
C213	4030019990	S.CER	C1005 JB 1C 104K-T	B	114.7/29.5
C214	4030019810	S.CER	C1005 JB 1E 103K-T	B	104.6/31.7
C215	4030019740	S.CER	C1005 JB 1H 102K-T	B	105.5/33.4
C221	4030019990	S.CER	C1005 JB 1C 104K-T	B	118.4/31.2
C222	4030019990	S.CER	C1005 JB 1C 104K-T	B	120.9/35.3
C223	4030019990	S.CER	C1005 JB 1C 104K-T	B	124.1/35.3
C224	4030019990	S.CER	C1005 JB 1C 104K-T	B	129.8/31.3
C225	4030019990	S.CER	C1005 JB 1C 104K-T	B	126.2/24.9
C251	4030019990	S.CER	C1005 JB 1C 104K-T	B	46.2/43.5
C252	4030019990	S.CER	C1005 JB 1C 104K-T	B	51/47.9
C253	4030011320	S.CER	C1005 CH 1H 470J-T	B	107.6/49.4
C301	4510008540	S.ELE	EEE1CA100SR	B	95.5/14.3
C302	4030019810	S.CER	C1005 JB 1E 103K-T	B	99.1/15.8

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REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
C303	4510008540	S.ELE	EEE1CA100SR	B	107/22.7
C304	4030019810	S.CER	C1005 JB 1E 103K-T	B	107.5/19.4
C351	4030019990	S.CER	C1005 JB 1C 104K-T	B	46/13.1
C401	4030011320	S.CER	C1005 CH 1H 470J-T	B	27.6/7.6
C402	4030011320	S.CER	C1005 CH 1H 470J-T	B	28.1/16.4
C403	4030011320	S.CER	C1005 CH 1H 470J-T	B	28.6/7.6
C404	4030011320	S.CER	C1005 CH 1H 470J-T	B	29.1/16.4
C405	4030011320	S.CER	C1005 CH 1H 470J-T	B	29.6/7.6
C406	4030011320	S.CER	C1005 CH 1H 470J-T	B	30.1/16.4
C412	4030019740	S.CER	C1005 JB 1H 102K-T	B	33.1/16.4
C413	4030019740	S.CER	C1005 JB 1H 102K-T	B	33.6/7.6
C414	4030019740	S.CER	C1005 JB 1H 102K-T	B	34.1/16.4
C415	4030011320	S.CER	C1005 CH 1H 470J-T	B	34.6/7.6
C416	4030011320	S.CER	C1005 CH 1H 470J-T	B	35.1/16.4
C417	4030011320	S.CER	C1005 CH 1H 470J-T	B	35.6/7.6
C418	4030019740	S.CER	C1005 JB 1H 102K-T	B	36.1/16.4
C419	4030019740	S.CER	C1005 JB 1H 102K-T	B	36.6/7.6
C420	4030019740	S.CER	C1005 JB 1H 102K-T	B	37.1/16.4
C421	4030019740	S.CER	C1005 JB 1H 102K-T	B	37.6/7.6
C424	4030019740	S.CER	C1005 JB 1H 102K-T	B	39.1/16.4
C425	4030019740	S.CER	C1005 JB 1H 102K-T	B	39.6/7.6
C426	4030011320	S.CER	C1005 CH 1H 470J-T	B	40.1/16.4
C427	4030019740	S.CER	C1005 JB 1H 102K-T	B	40.6/7.6
C428	4030011320	S.CER	C1005 CH 1H 470J-T	B	41.1/16.4
C429	4030019740	S.CER	C1005 JB 1H 102K-T	B	41.6/7.6
C430	4030019740	S.CER	C1005 JB 1H 102K-T	B	42.1/16.4
C443	4030019740	S.CER	C1005 JB 1H 102K-T	B	43.5/57.2
C444	4030019740	S.CER	C1005 JB 1H 102K-T	B	43/48.3
C445	4030019740	S.CER	C1005 JB 1H 102K-T	B	42.5/57.2
C446	4030019740	S.CER	C1005 JB 1H 102K-T	B	42/48.3
C447	4030019740	S.CER	C1005 JB 1H 102K-T	B	41.5/57.2
C448	4030019740	S.CER	C1005 JB 1H 102K-T	B	41/48.3
C449	4030019740	S.CER	C1005 JB 1H 102K-T	B	40.5/57.2
C450	4030019740	S.CER	C1005 JB 1H 102K-T	B	40/48.3
C453	4030019740	S.CER	C1005 JB 1H 102K-T	B	38.5/57.2
C454	4030019740	S.CER	C1005 JB 1H 102K-T	B	38/48.3
C455	4030019740	S.CER	C1005 JB 1H 102K-T	B	37.5/57.2
C456	4030019740	S.CER	C1005 JB 1H 102K-T	B	37/48.3
C458	4030019740	S.CER	C1005 JB 1H 102K-T	B	34/52.8
J1	6510021722	S.CON	30FLT-SM2-TB(LF)(SN)(M)	B	34.9/12
J3	6510027580	S.CON	16FLT-SM2-TB(LF)(SN)(M)	B	40/52.6
J4	6510027630	S.CON	22FLZ-RSM2-GB-TB(LF)(SN)	B	52.1/76
J5	6510027570	S.CON	B7B-ZR-SM4-TF(LF)(SN)	B	122.5/45.2
J6	6510021261	S.CON	B9B-ZR-SM4-TF(LF)(SN)	B	31.2/71.3
J7	6510022191	S.CON	B3B-PH-SM4-TB(LF)(SN)	B	106.6/45.2
DS1	5030003240	LCD	BTG-128128X-FBWD-N-G-A <VKH>		
DS2	5040003310	S.LED	L-C191KYCT <SHO>	T	122.6/86.9
DS3	5040003310	S.LED	L-C191KYCT <SHO>	T	142.7/68.3
DS4	5040003310	S.LED	L-C191KYCT <SHO>	B	142.7/53.1
DS5	5040003310	S.LED	L-C191KYCT <SHO>	T	102.5/68.3
DS6	5040003310	S.LED	L-C191KYCT <SHO>	T	122.6/60.2
DS7	5040003310	S.LED	L-C191KYCT <SHO>	T	115.3/41.1
DS8	5040003310	S.LED	L-C191KYCT <SHO>	T	108/20.2
DS9	5040003310	S.LED	L-C191KYCT <SHO>	T	137.2/34.1
DS10	5040003310	S.LED	L-C191KYCT <SHO>	B	135.6/32.5
DS11	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/74.3
DS12	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/66.4
DS13	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/58.5
DS14	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/50.6
DS15	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/42.7
DS16	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/34.8
DS17	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/26.9
DS18	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/19
DS19	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	94.4/11.1
DS20	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/11.1
DS21	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/19
DS22	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/26.9
DS23	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/34.8
DS24	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/42.7
DS25	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/50.6
DS26	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/58.5
DS27	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/66.4
DS28	5040003230	S.LED	RY-SP110UHY24-5M <VKH>	T	9.3/74.3
EP201	6910018270	S.BEA	MMZ1608Y301CT	B	127/38.6
EP202	6910018270	S.BEA	MMZ1608Y301CT	B	125.5/38.6
EP203	6910018270	S.BEA	MMZ1608Y301CT	B	123.7/38.6
EP206	6910018270	S.BEA	MMZ1608Y301CT	B	119.5/38.6

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

[CONNECT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C1	4030011320	S.CER C1005 CH 1H 470J-T	T	2.3/2.7
C2	4030011320	S.CER C1005 CH 1H 470J-T	T	2.7/1.3
C3	4030011320	S.CER C1005 CH 1H 470J-T	T	2.3/3.6
C4	4030011320	S.CER C1005 CH 1H 470J-T	T	6.7/1.8
C5	4030011320	S.CER C1005 CH 1H 470J-T	T	3.6/1.3
C6	4030011320	S.CER C1005 CH 1H 470J-T	T	5.2/1.3
C7	4030011320	S.CER C1005 CH 1H 470J-T	T	6.7/2.8
C8	4030011320	S.CER C1005 CH 1H 470J-T	T	30.4/3.3
C9	4030011320	S.CER C1005 CH 1H 470J-T	T	30.4/4.2
C10	4030011320	S.CER C1005 CH 1H 470J-T	T	30.4/8.7
C11	4030011320	S.CER C1005 CH 1H 470J-T	T	30.4/5.1
C12	4030011320	S.CER C1005 CH 1H 470J-T	T	30.4/6.9
C13	4030019740	S.CER C1005 JB 1H 102K-T	T	30.4/6
C14	4030019740	S.CER C1005 JB 1H 102K-T	T	30.4/7.8
J1	6510027610	CON LTWHDB-15PFFP-SL8001 <LIA>		
J2	6510027780	S.CON 04-6254-016-000-800	T	6.5/7.9

[CONNECT-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
J1	6510026890	CON LTWBD-07PMMP-LC7001 <LIA>		
W1	8900019140	CAB OPC-2020 <TJM>		

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
S.=Surface mount

SECTION 7 MECHANICAL PARTS

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510004880	MR-DS-E 01 <SSC>	1
W1**	8900019000	OPC-1996	1
MP1	8010021740	3228 CHASSIS	1
MP2	8210026151	2914 REAR PANEL(B)-1	1
MP4	8930069321	2914 REAR SEAL-1(TOP)	1
MP5	8930080460	3228 D-SUB PLATE	1
MP6	8930080430	3228 D-SUB SEAL	1
MP7	8930080450	3228 IC CLIP Y1178	1
MP8	8930080470	3228 BUSH PLATE	1
MP9	8930034300	1542 ANT SEAL <TMC>	1
MP10	8930058780	2577 SHEET	1
MP11	8930052290	O-RING(AD)(TOP)	1
MP12	8820001210	2438 SCREW	1
MP13	8810010610	PHB0 M3 X 8 SUS S(BT)	2
MP14	8810010610	PHB0 M3 X 8 SUS S(BT)	4
MP15	8810010610	PHB0 M3 X 8 SUS S(BT)	6
MP16	8810008201	PHBT M2.6X 6 NI-ZC3	2
MP17	8810010620	PHB0 M3 X12 SUS S	6
MP18	8810008661	PHBT M3 X 8 NI-ZC3	7
MP19	8810008661	PHBT M3 X 8 NI-ZC3	4

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510021722	30FLT-SM2-TB(LF)(SN)(M)	1
J3*	6510019371	B3B-ZR-SM4-TF(LF)(SN)	1
J4	6510027700	IMSA-6065B-02Z097-PT1	1
W1	7030012290	RDS2T0R0	1
W2**	8900019100	OPC-2016(P0.5N30L90)	1
MP1*	8510014940	2601 VCO CASE Y641	1
MP2*	8510014940	2601 VCO CASE Y641	1
MP3*	8510014940	2601 VCO CASE Y641	1
MP4	8510014950	2601 VCO COVER Y642	1
MP5	8510014950	2601 VCO COVER Y642	1
MP6	8510014950	2601 VCO COVER Y642	1
MP7*	8930070520	2914 S-EARTH SPRING Y878	1
MP8*	8930070520	2914 S-EARTH SPRING Y878	1
MP9*	8930065741	2590 D-EARTH SPRING-1	1

[REG UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510025500	OP-12	1
J2	6510025500	OP-12	1
J3*	6510027580	16FLT-SM2-TB(LF)(SN)(M)	1
J4*	6510027580	16FLT-SM2-TB(LF)(SN)(M)	1
J5*	6510018961	B2B-PH-SM4-TB(LF)(SN)	1
W1**	8900019130	OPC-2019	1
W2**	8900019110	OPC-2017(P0.5N16L120)	1
W3**	8900019120	OPC-2018(P0.5N16L50)	1

[FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
SP1	2520000121	PKM24EWH4000	1
MP1	8210025990	3228 FRONT PANEL	1
MP3	8930080390	3228 KEY <KRI>	1
MP4	8930058780	2577 SHEET	1
MP5	8930069310	2914 FRONT SEAL(TOP)	1
MP6	8810008661	PHBT M3 X 8 NI-ZC3	7
MP7	8810008761	PHBT M2 X 8 NI-ZC3	2

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
DS1	5030003240	BTG-128128X-FBWD-N-G-A <VKH>	1
J1*	6510021722	30FLT-SM2-TB(LF)(SN)(M)	1
J3*	6510027580	16FLT-SM2-TB(LF)(SN)(M)	1
J4*	6510027630	22FLZ-RSM2-GB-TB(LF)(SN)	1
J5*	6510027570	B7B-ZR-SM4-TF(LF)(SN)	1
J6*	6510021261	B9B-ZR-SM4-TF(LF)(SN)	1
J7*	6510022191	B3B-PH-SM4-TB(LF)(SN)	1
MP1	8930080440	3228 LCD HOLDER	1
MP2	8210026000	3228 REFLECTOR	1
MP3	8930080890	3228 A-WHITE SHEET	1
MP4	8930080910	3228 A-LCD SPONGE	2

[CONNECT UNIT]

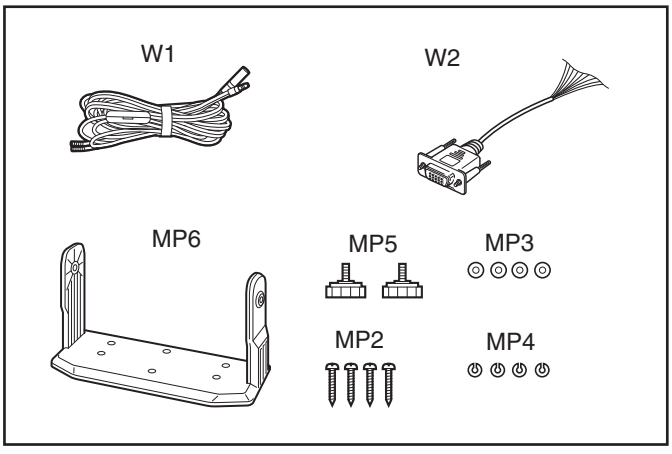
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510027610	LTWHDB-15PFFP-SL8001 W/06<LIA>	1
J2*	6510027780	04-6254-016-000-800+	1

[CONNECT-A UNIT]

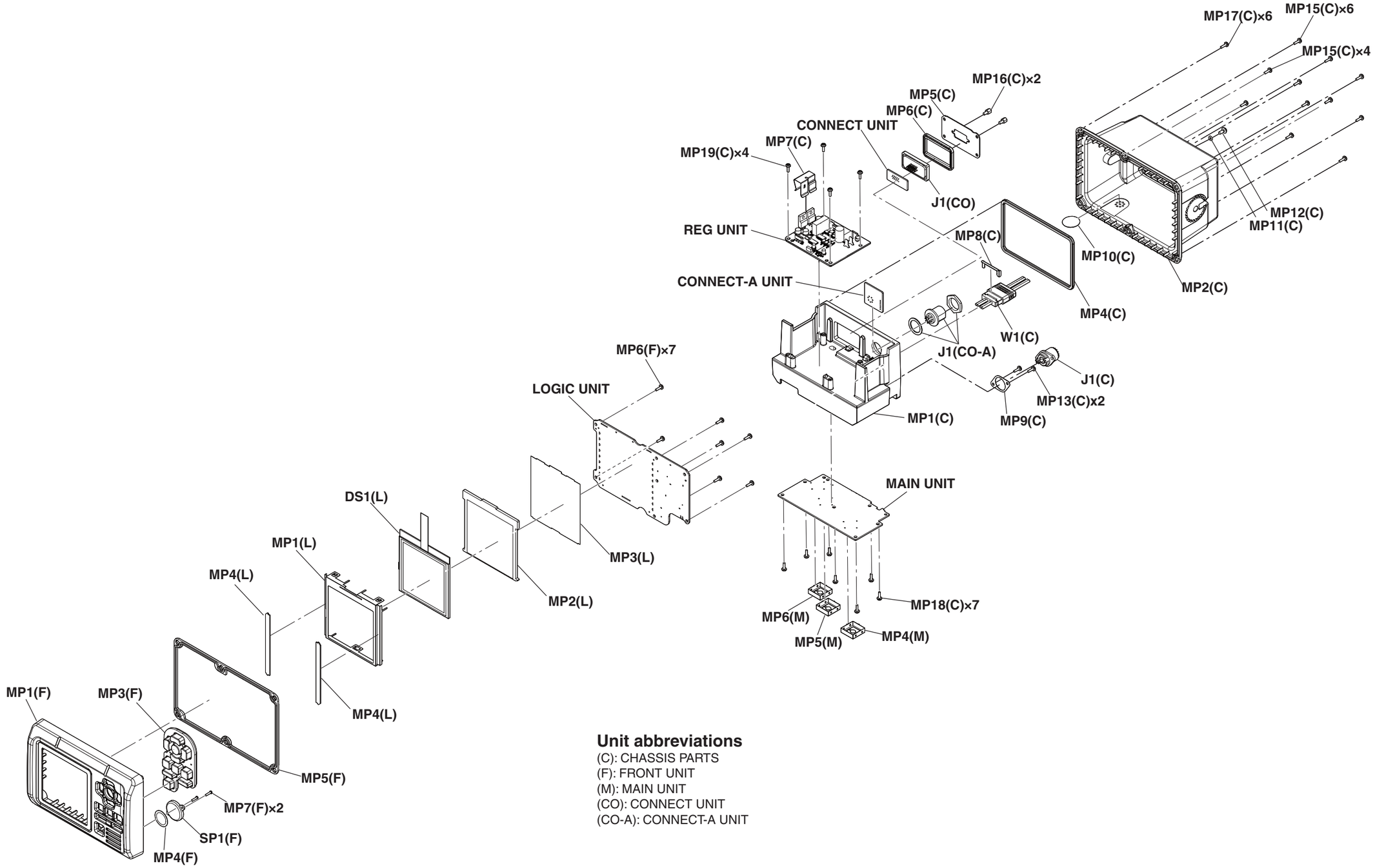
REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510026890	LTWBD-07PMMP-LC7001 <LIA>	1
W1**	8900019140	OPC-2020	1

[ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
W1	8900019360	OPC-2059	1
W2	8900019150	OPC-2014	1
MP2	8810001490	PHA M5 X20 SUS	4
MP3	8850000180	FLAT WASHER M 5 SUS	4
MP4	8850000500	S-WASHER M 5 SUS	4
MP5	8820001460	3054 KNOB BOLT	2
MP6	8010018154	2345 MOBILE BRACKET-4	1



*: Refer to "**BOARD LAYOUTS**" for the location.
: Refer to "GENERAL WIRING**" for the connection
Screw abbreviations A, B0, BT: Self-tapping PH: Pan head ZK: Black NI-ZU: Nickel-Zinc SUS: Stainless

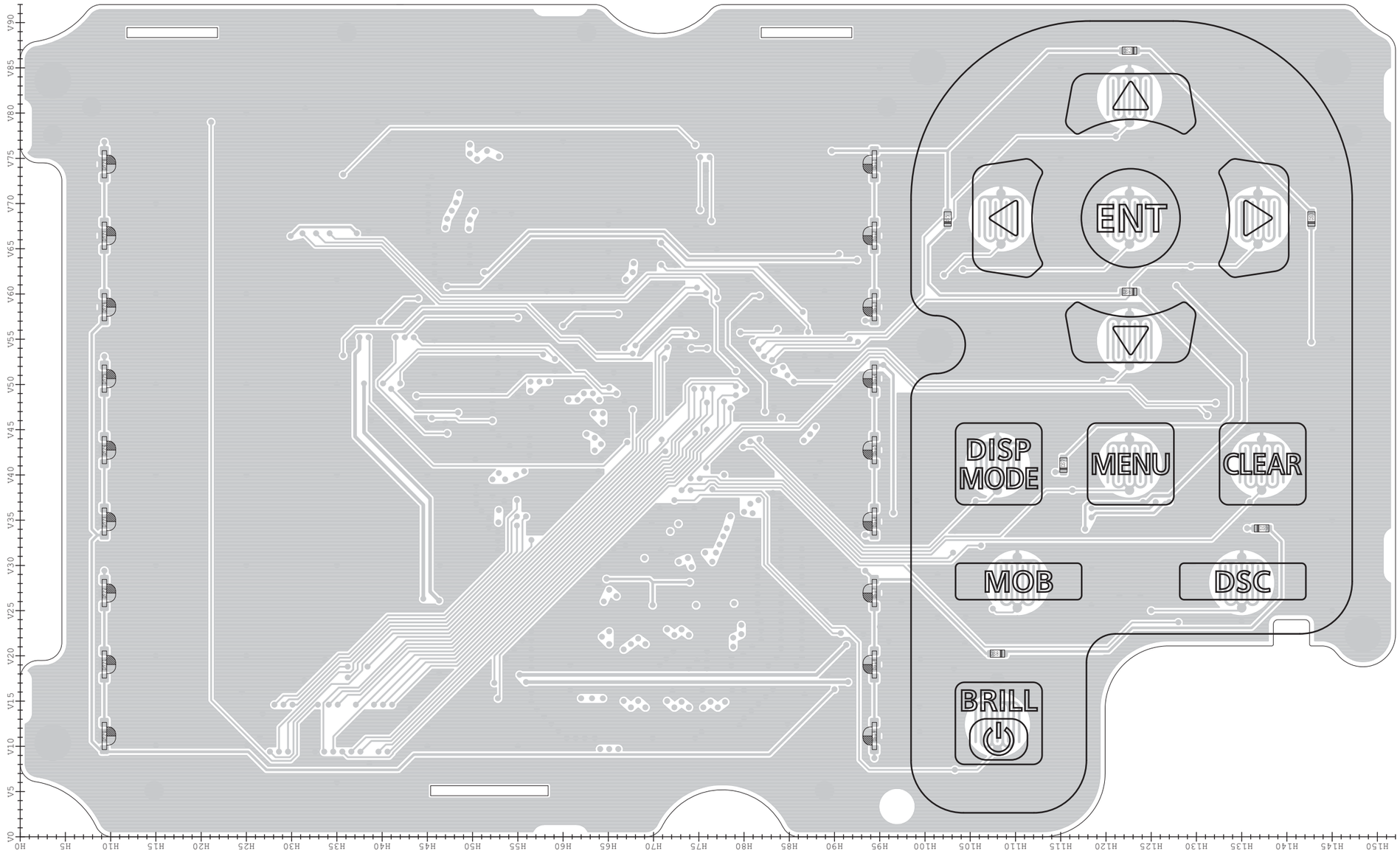


Unit abbreviations

(C): CHASSIS PARTS
(F): FRONT UNIT
(M): MAIN UNIT
(CO): CONNECT UNIT
(CO-A): CONNECT-A UNIT

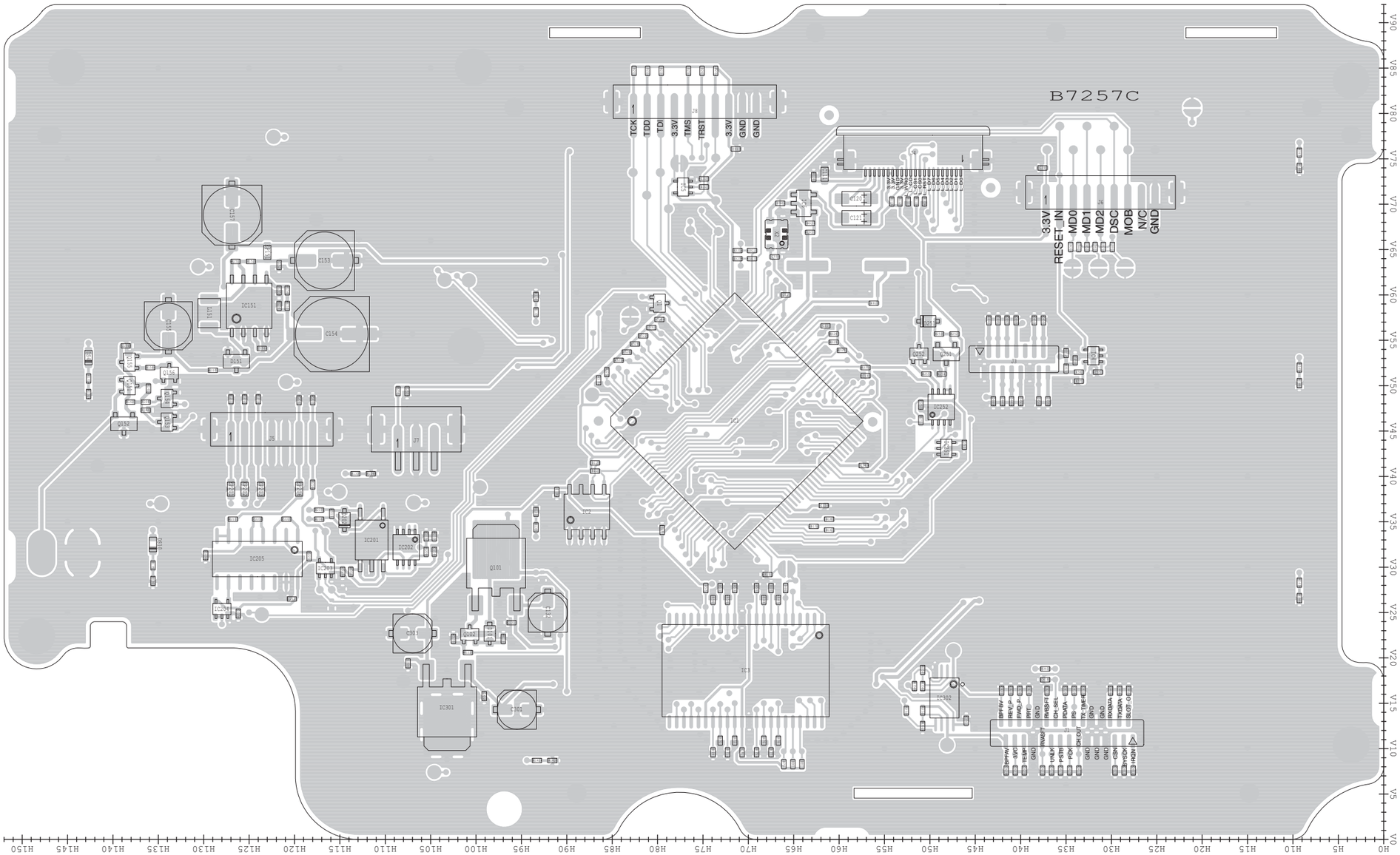
The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

• LOGIC UNIT (TOP VIEW)



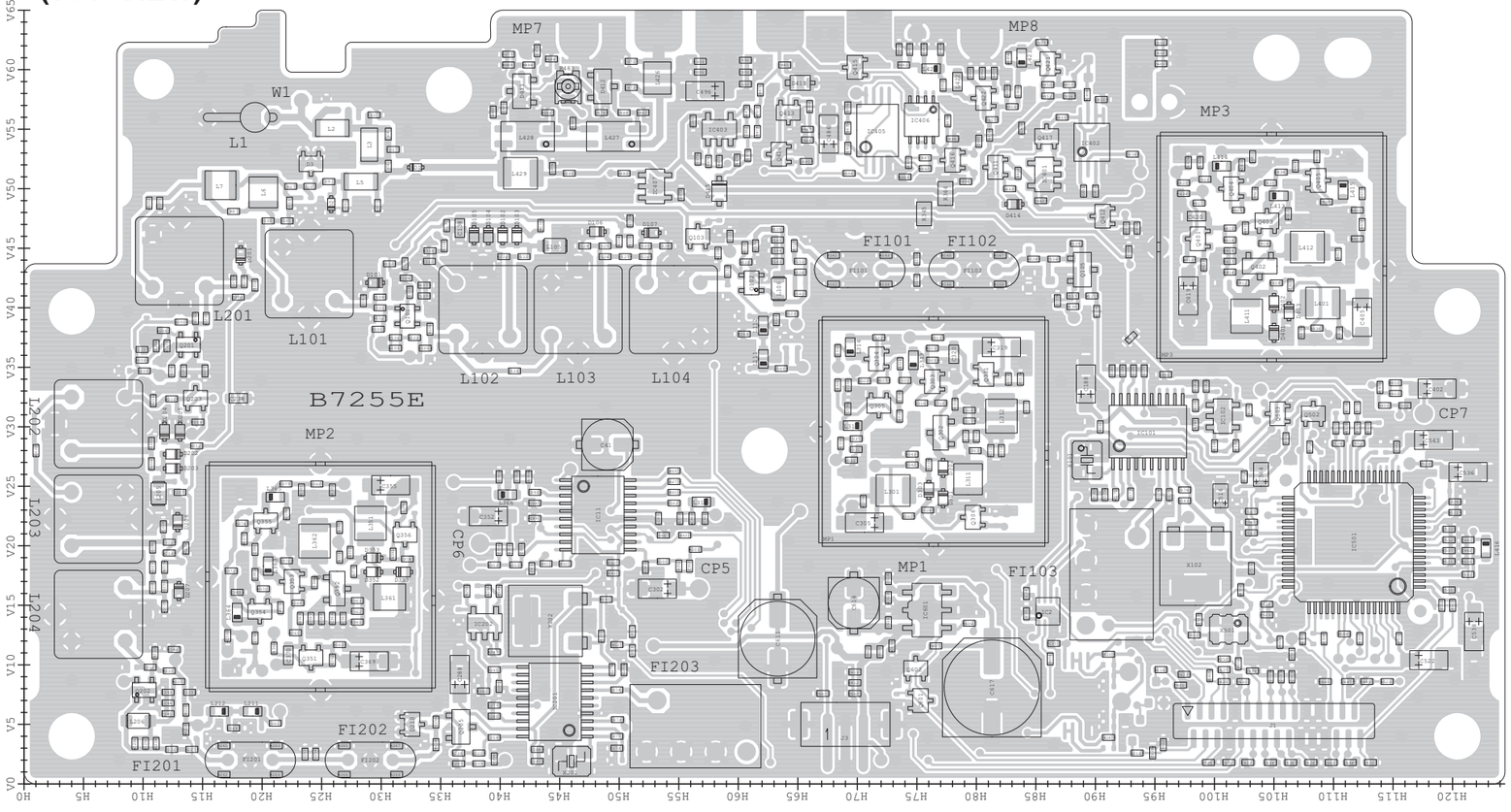
The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

• LOGIC UNIT (BOTTOM VIEW)

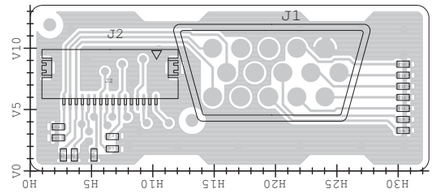


The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

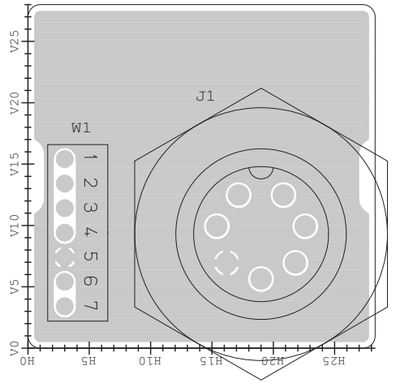
• MAIN UNIT (TOP VIEW)



• CONNECT UNIT (TOP VIEW)

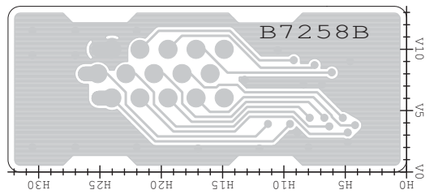


• CONNECT-A UNIT (TOP VIEW)

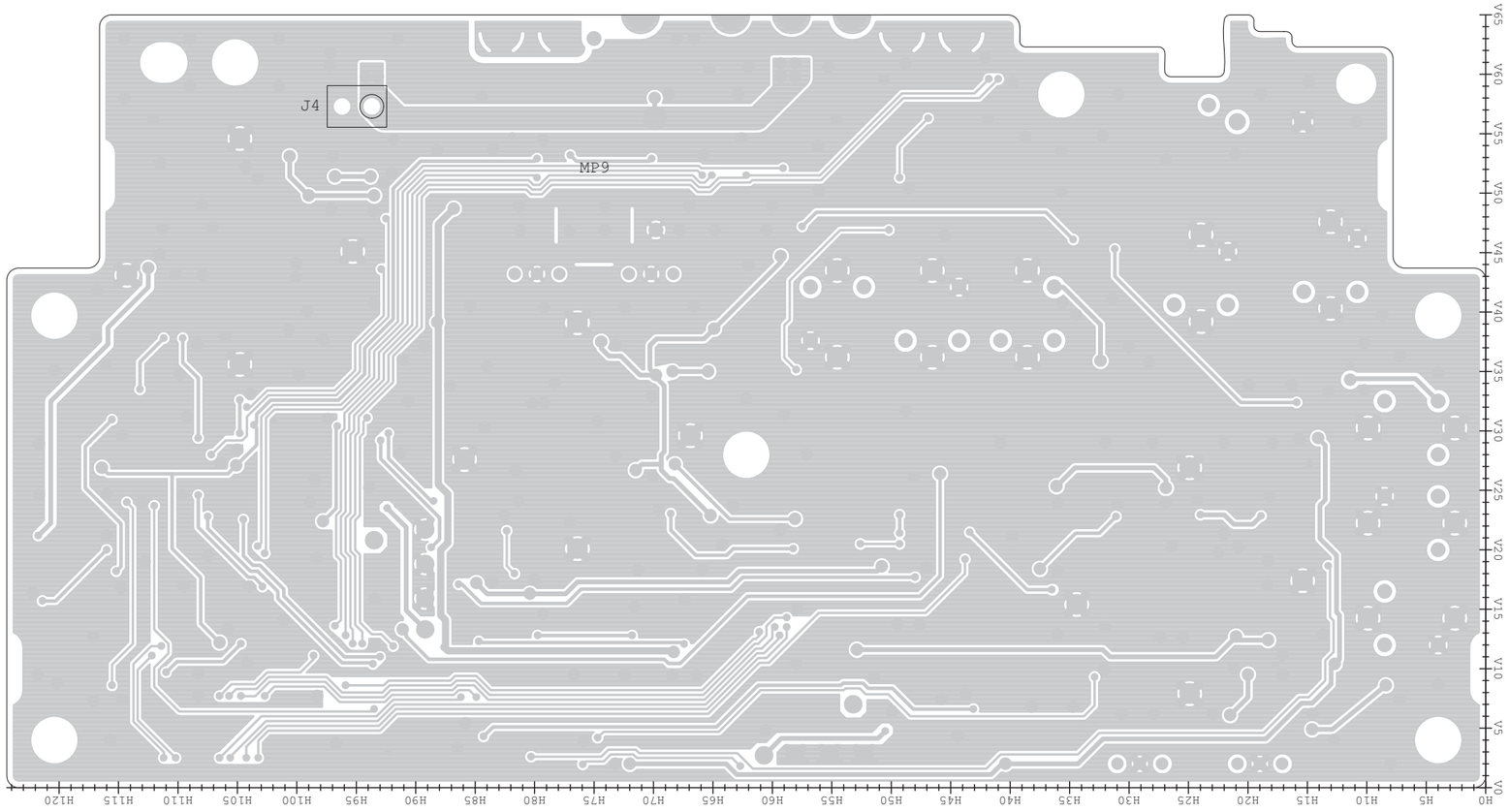


The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

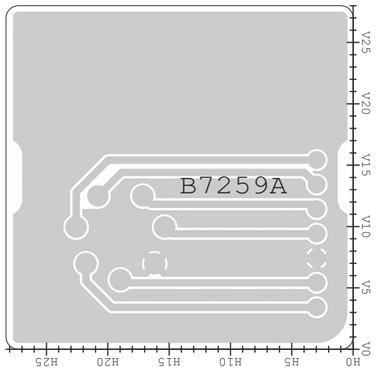
• CONNECT UNIT (BOTTOM VIEW)



• MAIN UNIT (BOTTOM VIEW)

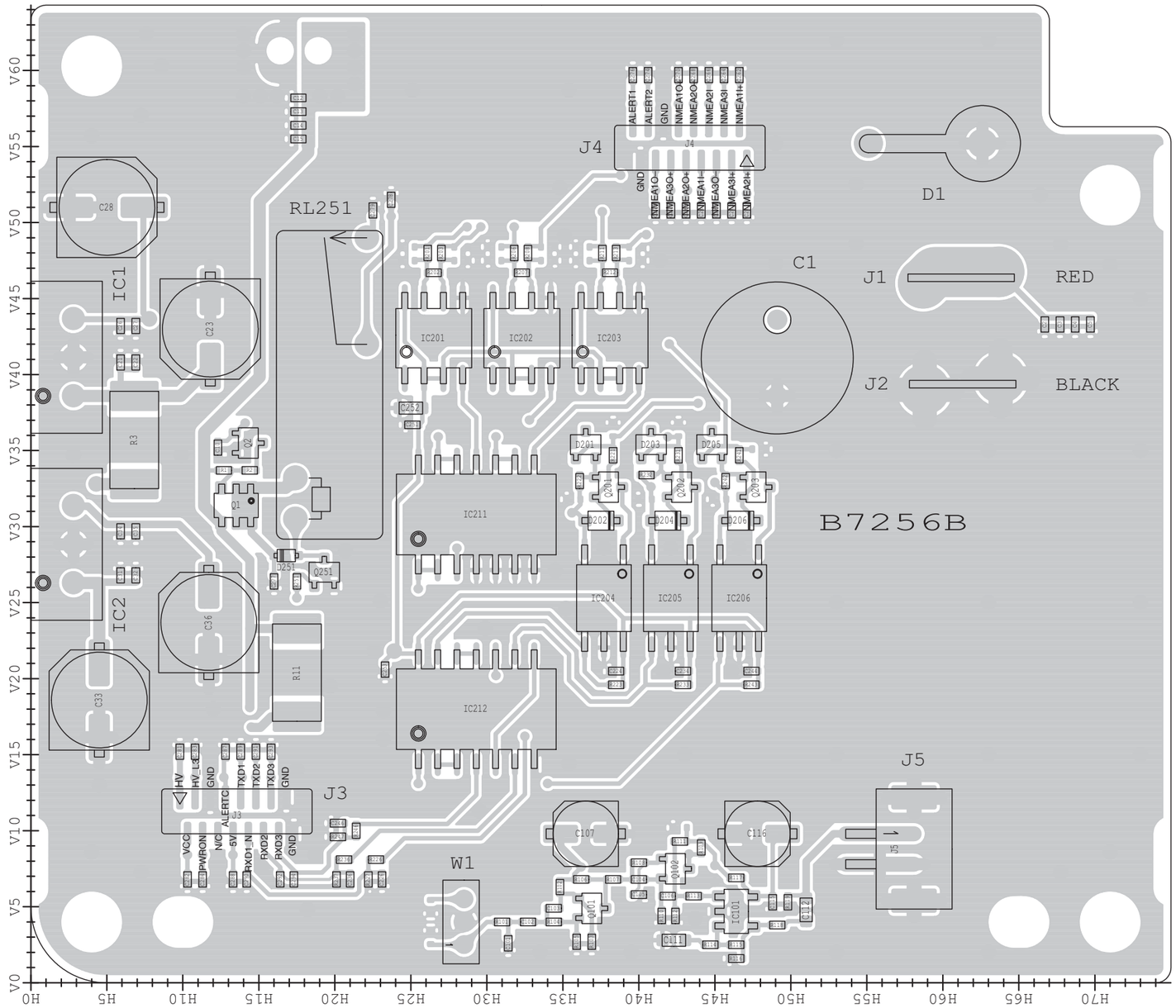


• CONNECT-A UNIT (BOTTOM VIEW)



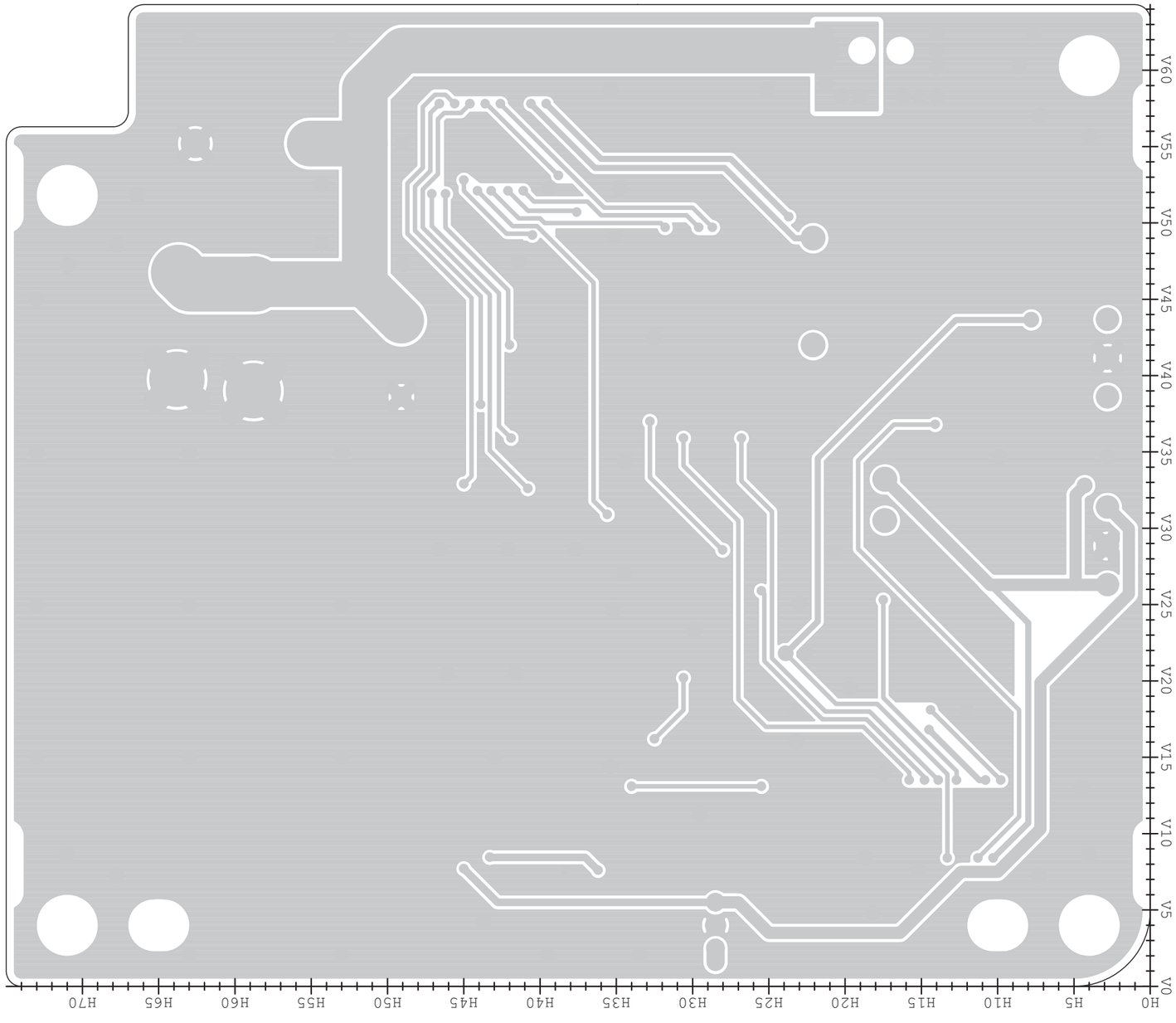
The combination of this page and next page shows the top side and bottom side of actual P.C. board.

• REG UNIT (TOP VIEW)

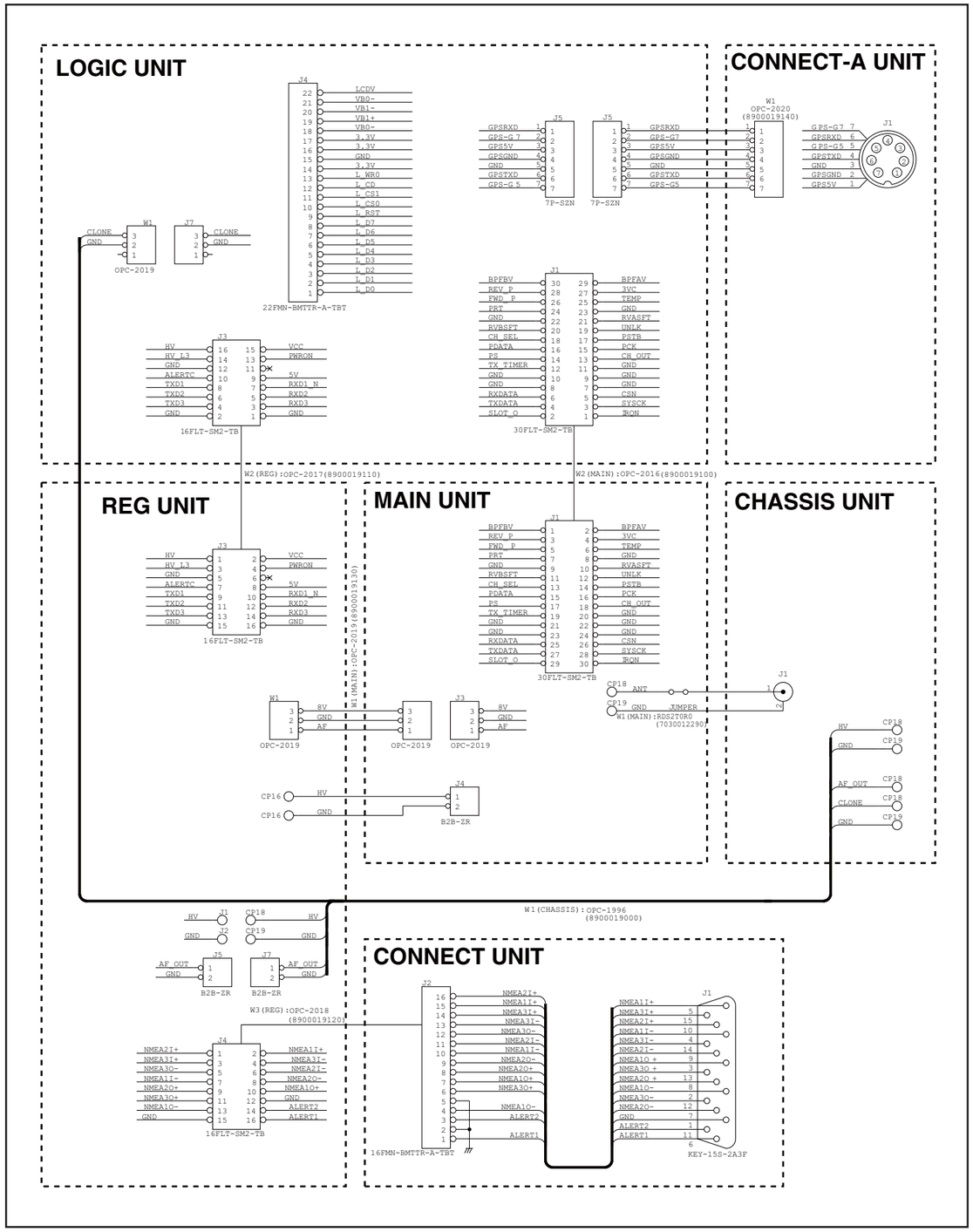


The combination of this page and next page shows the top side and bottom side of actual P.C. board.

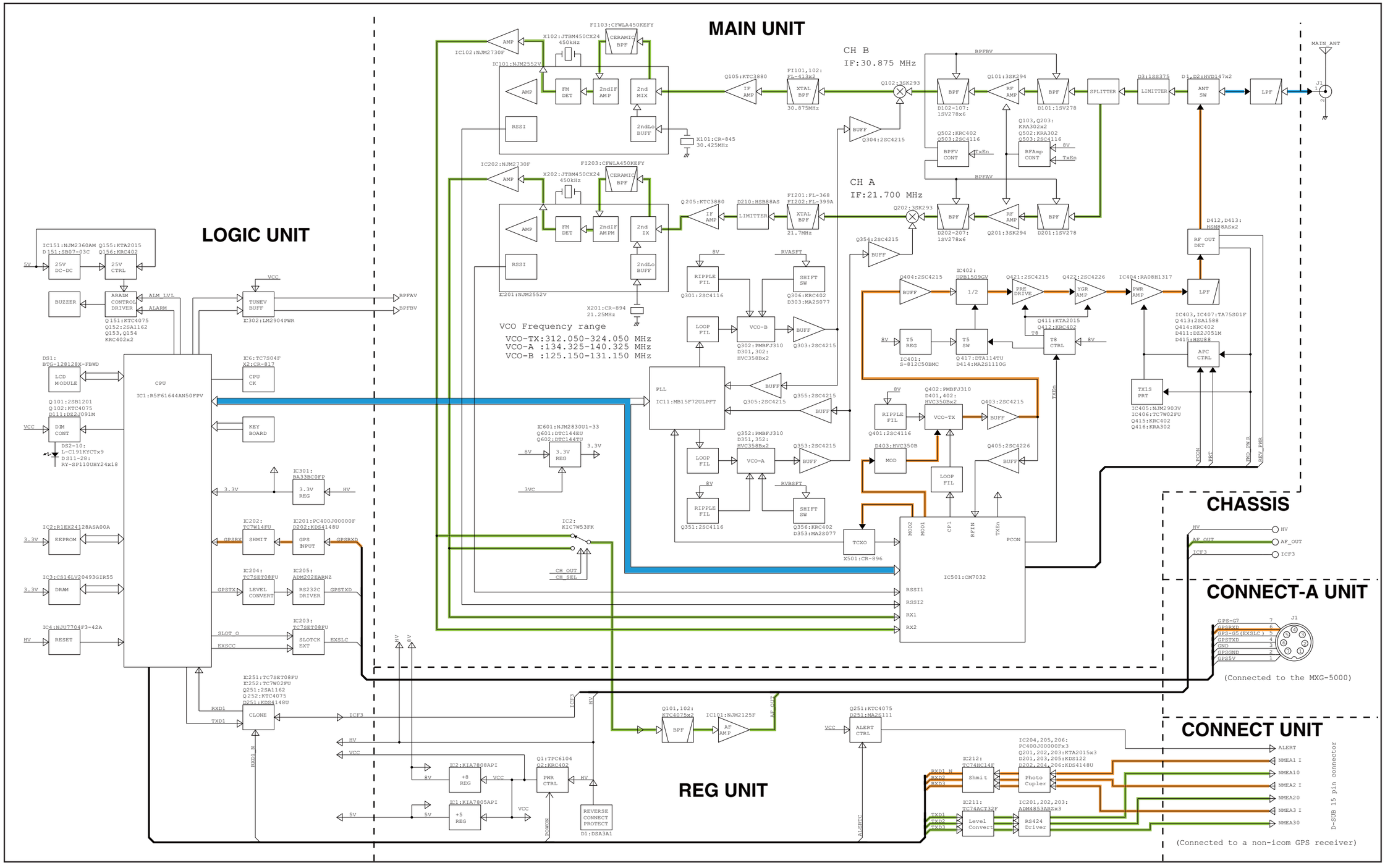
• REG UNIT (BOTTOM VIEW)



SECTION 9 GENERAL WIRING

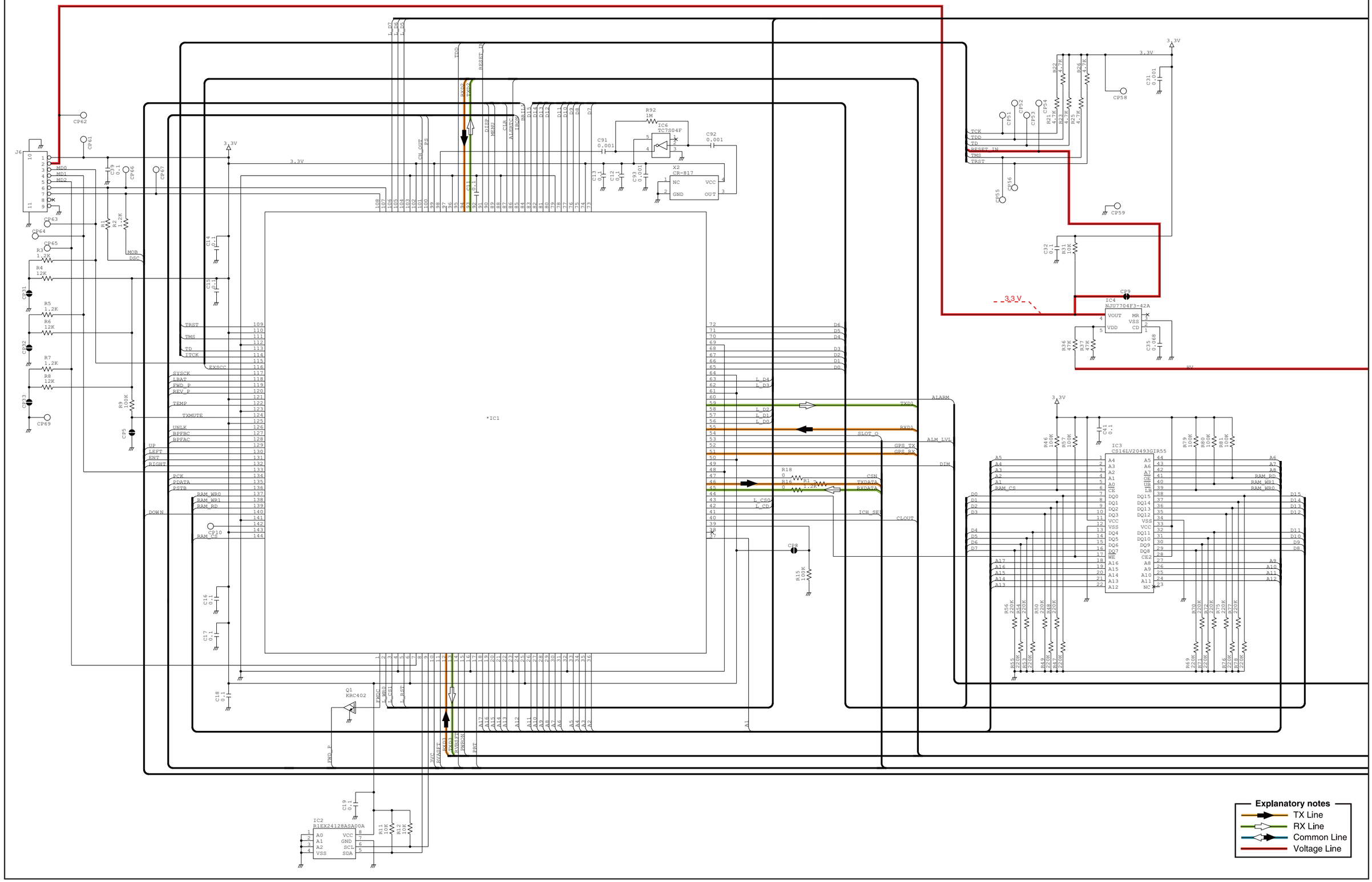


SECTION 10 BLOCK DIAGRAM

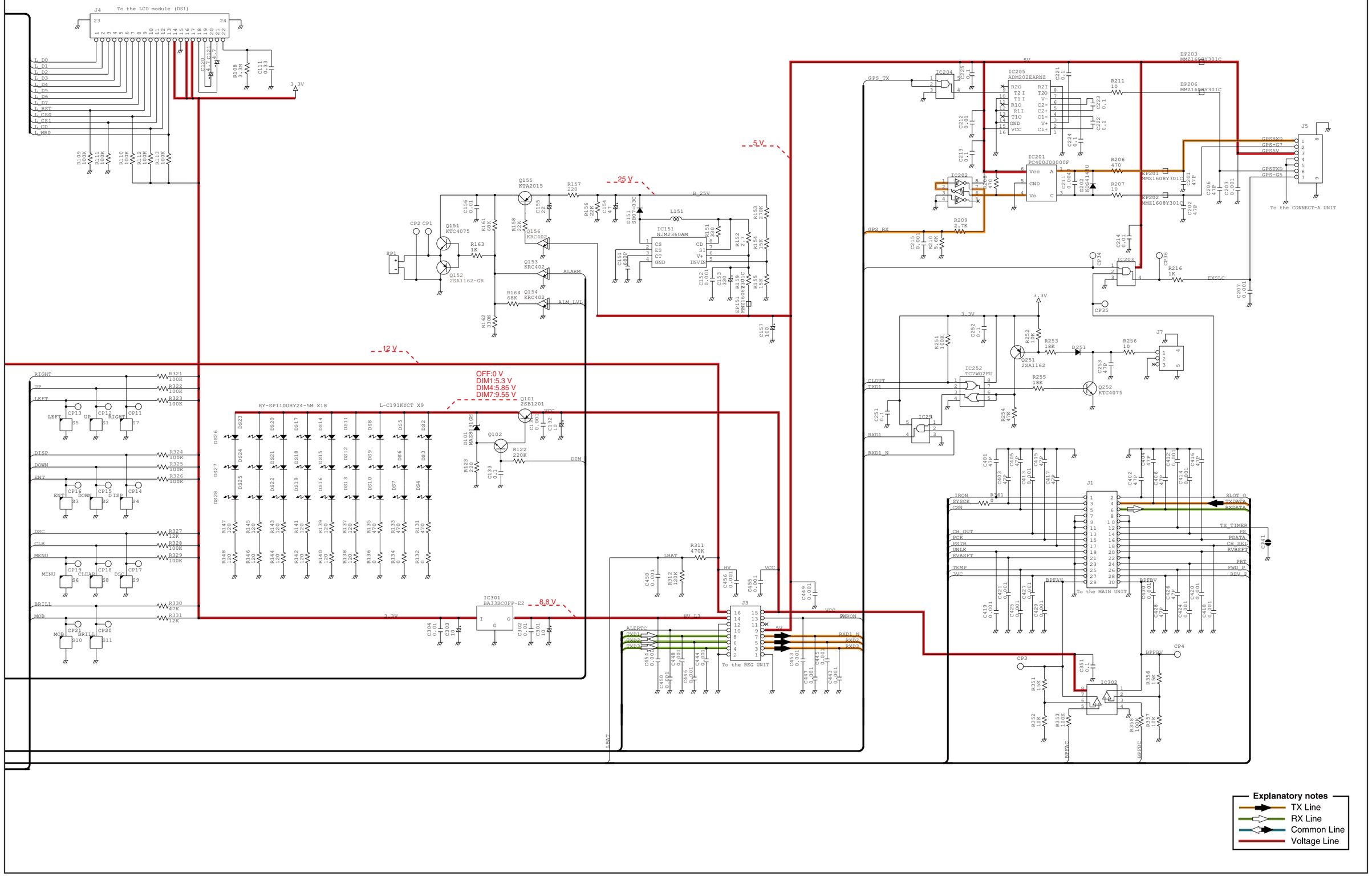


SECTION 11 VOLTAGE DIAGRAM

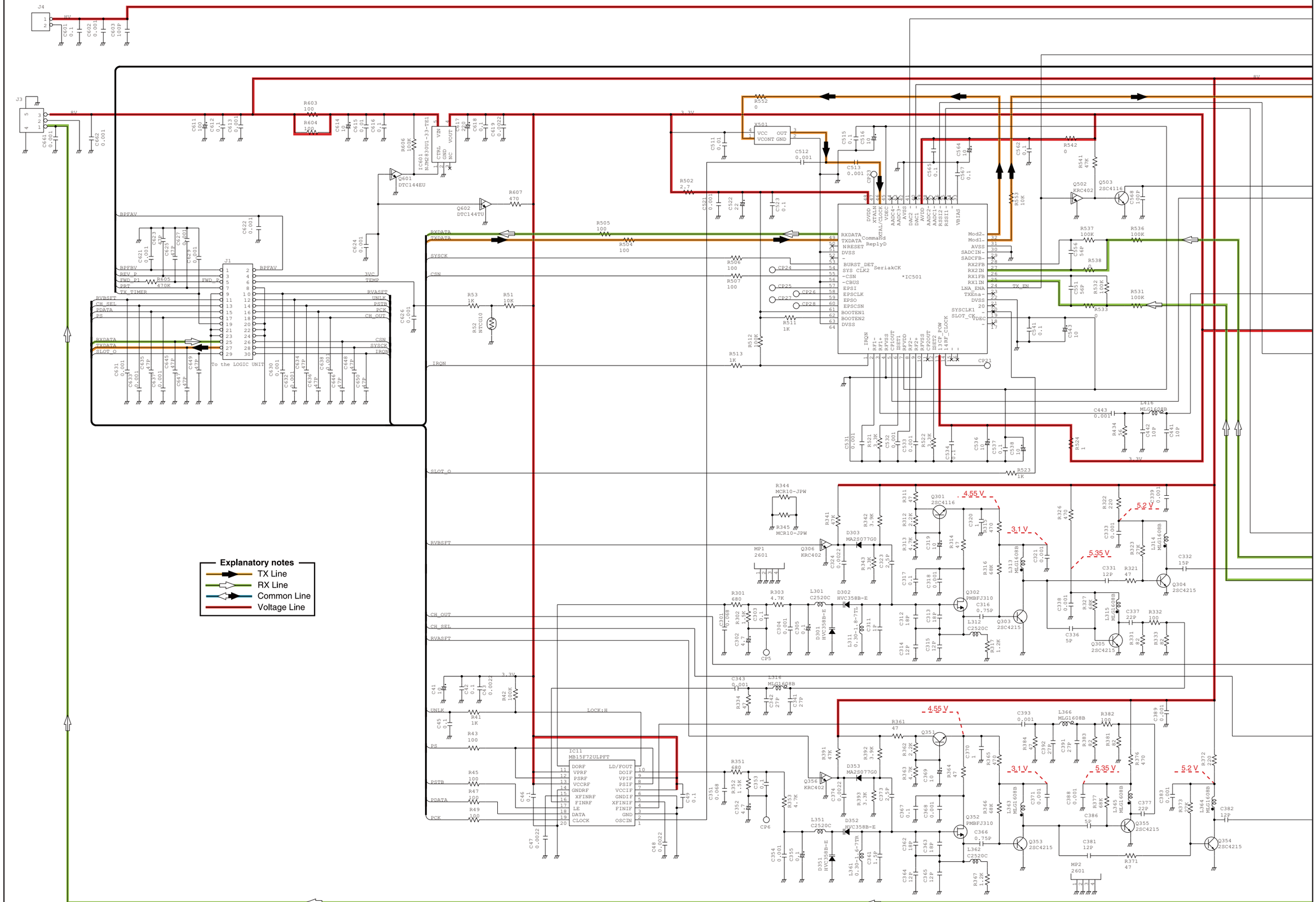
• **LOGIC UNIT (1/2)**



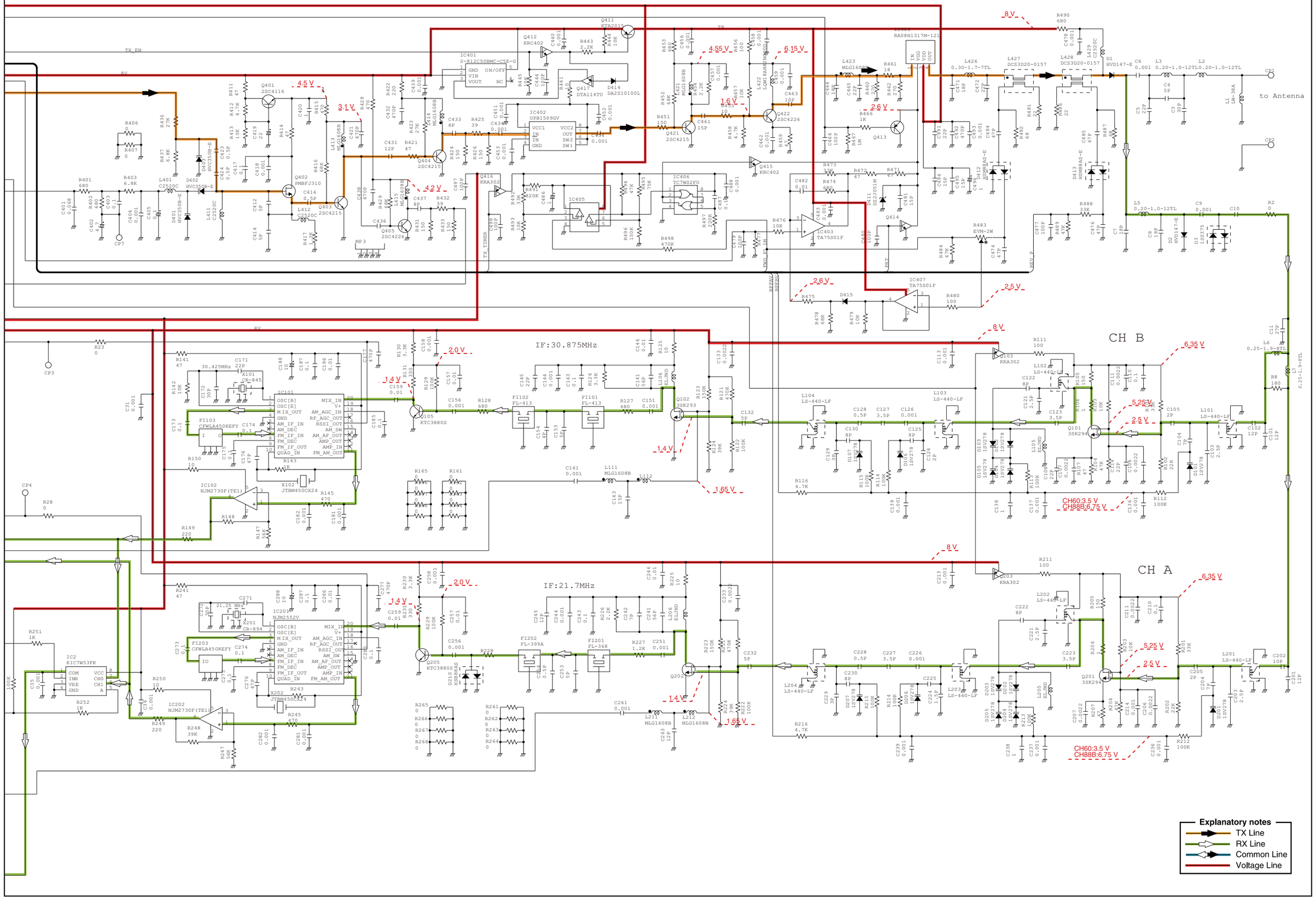
• LOGIC UNIT (2/2)



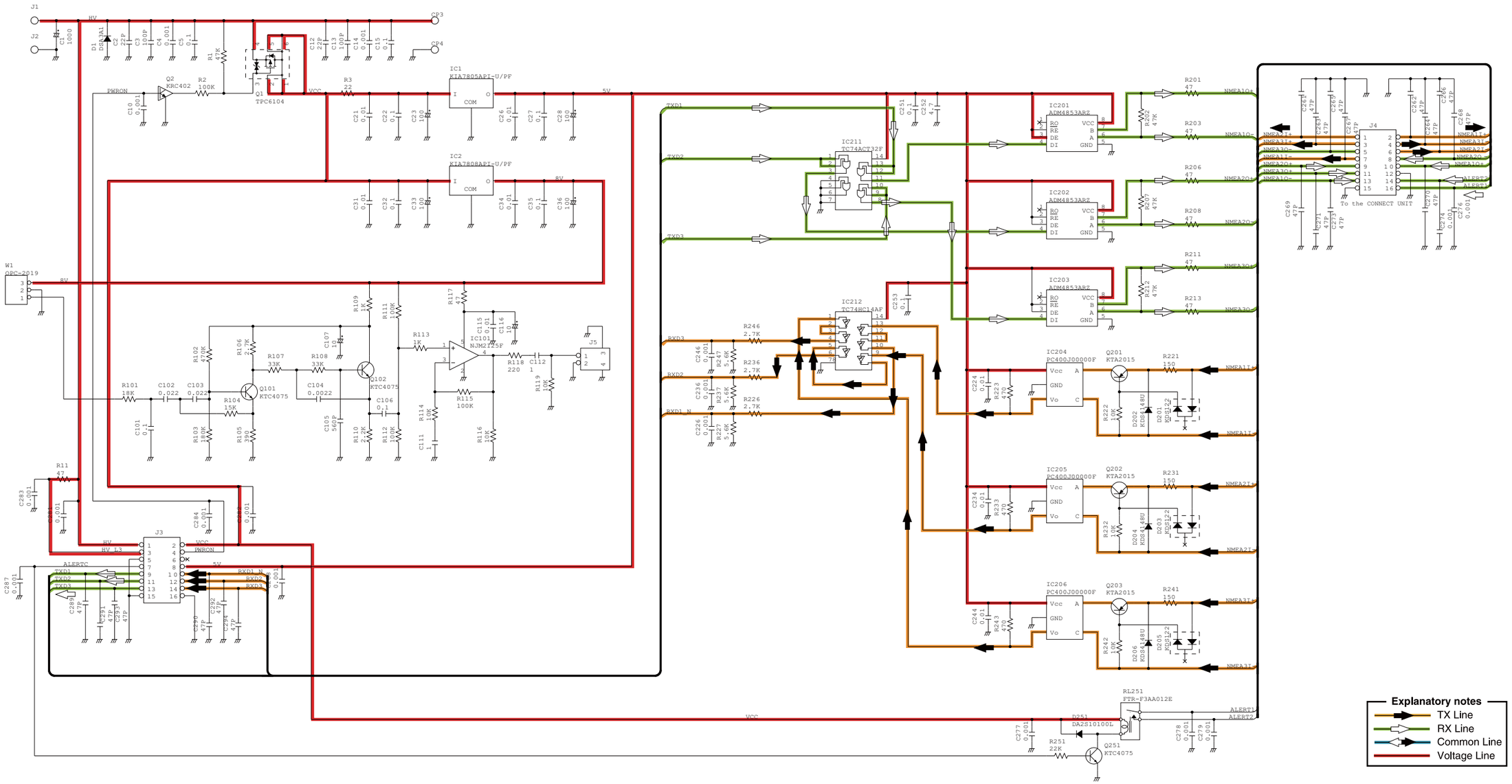
• MAIN UNIT (1/2)


Explanatory notes
TX Line
RX Line
Common Line
Voltage Line
J4
J3
J1
To the LOGIC UNIT
IC501
Command
ReplyD
SeriakCK
IC11
MB15F72ULPFT
Q601
DTC144EU
Q602
DTC144TU
IC601
NJM2830U1-33-TE1
X501
Q301
2SC4116
Q302
PMBFJ310
Q303
2SC4215
Q304
2SC4215
Q305
2SC4215
Q306
KRC402
Q351
Q352
PMBFJ310
Q353
2SC4215
Q354
2SC4215
Q355
2SC4215
Q356
KRC402
Q502
KRC402
Q503
2SC4116
D301
HVC358B-E
D302
HVC358B-E
D303
MA2S077G0
D351
HVC358B-E
D352
HVC358B-E
D353
MA2S077G0
MP1
2601
MP2
2601
8V
3.3V
3VC
4.55 V
5.2 V
3.1 V
5.35 V
BPFAV
RXDATA
TXDATA
SYSCK
CSN
IRQN
SLOT_O
RVBSET
CH_OUT
CH_SEL
RVASET
UNLK
PS
RSTB
PDATA
PCK
LOCK:H
TX_EN

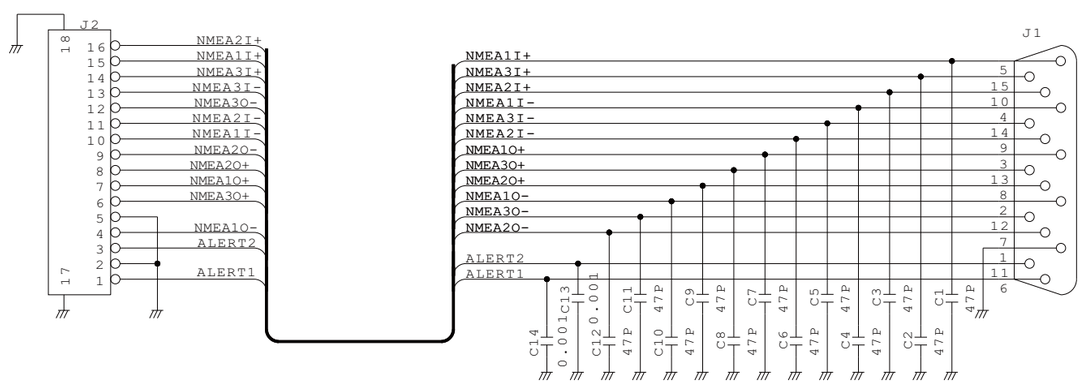
• MAIN UNIT (2/2)


IF:30.875MHz
IF:21.7MHz
CH B
CH A
to Antenna
CH60:3.5 V
CH88B:6.75 V
Explanatory notes
TX Line
RX Line
Common Line
Voltage Line

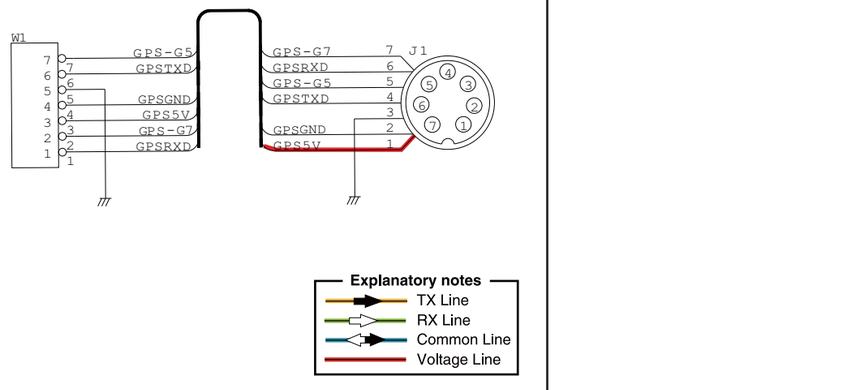
• REG UNIT



• CONNECT UNIT



• CONNECT-A UNIT



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